PUTTING IT ALL TOGETHER—FINAL PRESENTATIONS

Final Presentations ◄
Peer/Instructor Feedback and Evaluation ◄
Review of Course Objectives ◄
Course Evaluation ◄

FINAL PRESENTATIONS

Objective:

Students will demonstrate instructor skills in a realistic classroom setting.

Time:

30 minutes for each presentation and 15 minutes of feedback, per student

Instructions:

This course culminates in lesson presentations by the Instructor Trainees. Preparations are made throughout the course, primarily in the form of in-class activities. You will be assigned one of the EMT-Basic lessons located in this section as your topic. The presentations will be made during the last sessions of class, in order according to the Table of Contents. If the class is large, you may split a topic with another student.

One of the first tasks to accomplish in your preparation is a resource and literature search. Your instructor may provide textbooks and other source material. If you need assistance obtaining the materials you need, ask your instructor for assistance. Bring any resources you can to class for use during preparations.

In-class activities, beginning in Lesson 6, give you the opportunity to design, develop, and plan your instruction with instructor guidance and peer feedback. Components of your presentation include evaluating and refining lesson objectives, determining appropriate teaching methods, obtaining or creating supporting media, and the development of a lesson plan. You will be critiqued on your presentation and communication skills as well.

After each student has presented, there will be a fifteen minute opportunity for peer/instructor evaluation and feedback. Look over the Student Presentation Evaluation Form in Appendix B prior to the first presentation so that you know what to focus on for your critique.

FINAL PRESENTATIONS (cont'd)

Videotaped presentations

If desired, the presentations can be videotaped. If this is done, each student should be able to go into an adjacent room and view their own presentation immediately afterward. The next presentation can proceed without them, and evaluations can take place after the next person has presented, and so on. The evaluation should begin with the Instructor Trainee stating what they felt, from watching the videotape, was one strength and one thing they want to work to improve.

EMT-BASIC LESSONS
FOR FINAL PRESENTATIONS

1-1 INTRODUCTION TO EMERGENCY MEDICAL CARE

1-2 WELL-BEING OF THE EMT-BASIC

1-5 BASELINE VITAL SIGNS AND SAMPLE HISTORY

1-6 LIFTING AND MOVING PATIENTS

3-2 INITIAL ASSESSMENT

3-3 FOCUSED HISTORY AND PHYSICAL EXAM — TRAUMA PATIENTS

3-5 DETAILED PHYSICAL EXAM

3-7 COMMUNICATIONS

4-6 POISONING/OVERDOSE

5-1 BLEEDING AND SHOCK

5-3 MUSCULOSKELETAL CARE

5-4 INJURIES TO THE HEAD AND SPINE

MODULE 1

Preparatory

Lesson 1-1

Introduction to Emergency Care

OBJECTIVES

OBJECTIVES LEGEND

C = Cognitive P = Psychomotor A = Affective
1 = Knowledge level
2 = Application level
3 = Problem-solving level

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

1-1.1 Define Emergency Medical Services (EMS) systems.(C-1)
1-1.2 Differentiate the roles and responsibilities of the EMT-Basic from other prehospital care providers.(C-3)
1-1.3 Describe the roles and responsibilities related to personal safety.(C-1)
1-1.4 Discuss the roles and responsibilities of the EMT-Basic towards the safety of the crew, the patient and bystanders.(C-1)
1-1.5 Define quality improvement and discuss the EMT-Basic's role in the process.(C-1)
1-1.6 Define medical direction and discuss the EMT-Basic's role in the process.(C-1)
1-1.7 State the specific statutes and regulations in your state regarding the EMS system.(C-1)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

1-1.8 Assess areas of personal attitude and conduct of the EMT-Basic.(A-3)
1-1.9 Characterize the various methods used to access the EMS system in your community.(A-3)

PSYCHOMOTOR OBJECTIVES

No psychomotor objectives identified.

PREPARATION

Motivation: The field of prehospital emergency medical care is an evolving profession in which the reality of life and death is confronted at a moment's notice. EMS has developed from the days when the local funeral home and other services served as the ambulance provider to a far more sophisticated system today. EMT-Basics work side by side with other health care professionals to help deliver professional prehospital emergency medical care. This course is designed to help the new EMT-Basic gain the knowledge, skills and attitude necessary to be a competent, productive, and valuable member of the emergency medical services team.

Prerequisites: BLS

MATERIALS

AV Equipment: Utilize various audio-visual materials relating to emergency medical care. The continuous design and development of new audio-visual materials relating to EMS requires careful review to determine which best meet the needs of the program. Materials should be edited to assure the objectives of the curriculum are met.

EMS Equipment: None required.

PERSONNEL

Primary Instructor: One EMT-Basic instructor knowledgeable in EMT-Basic course overview, administrative paperwork, certification requirements, Americans with Disabilities Act issues, and roles and responsibilities of the EMT-Basic.

Assistant Instructor: None required.

Recommended Minimum Time to Complete: One and a half hours

PRESENTATION

Declarative (What)

I. Course Overview
   - A. Paperwork
     1. Local
     2. State
   - B. Course description and expectations
   - C. Immunizations/physical exam
   - D. Review criteria for certification
     1. Successful course completion
     2. Mentally/physically meet criteria of safe and effective practice of job functions
     3. Written examination
     4. Practical examination
     5. State and local provisions
   - E. Implications of Americans with Disabilities Act (ADA) - state and local policies
   - F. Implications of harassment - state and local policies

II. The Emergency Medical Services System and the Emergency Medical Technician-Basic
   - A. Overview of the Emergency Medical Services system
     1. National Highway Traffic Safety Administration Technical Assistance Program Assessment Standards
        - a. Regulation and policy
        - b. Resource management
        - c. Human resources and training
        - d. Transportation
        - e. Facilities
        - f. Communications
        - g. Public information and education
        - h. Medical direction
        - i. Trauma systems
        - j. Evaluation
     2. Access to the system
        - a. 9-1-1
        - b. Non 9-1-1

3. Levels of training
   a. First Responder
   b. EMT-Basic
   c. EMT-Intermediate
   d. EMT-Paramedic
4. The health care system
   a. Emergency departments
   b. Specialty facilities
      (1) Trauma centers
      (2) Burn centers
      (3) Pediatric centers
      (4) Poison centers
      (5) Other specialty centers - locally dependent
5. Hospital personnel
   a. Physicians
   b. Nurses
   c. Other health professionals
6. Liaison with other public safety workers
   a. Local law enforcement
   b. State and federal law enforcement
7. Overview of the local EMS system

B. Roles and Responsibilities of the EMT-Basic
1. Personal safety
2. Safety of crew, patient and bystanders
3. Patient assessment
4. Patient care based on assessment findings
5. Lifting and moving patients safely
6. Transport/transfer of care
7. Record keeping/data collection
8. Patient advocacy (patient rights) - patient as a whole

C. Professional attributes
1. Appearance
   a. Neat
   b. Clean
   c. Positive image
2. Maintains up-to-date knowledge and skills
   a. Continuing education
   b. Refresher courses
3. Puts patient's needs as a priority without endangering self.
4. Maintains current knowledge of local, state, and national issues affecting EMS.

D. Quality improvement
   1. Definition - a system of internal/external reviews and audits of all aspects of an EMS system so as to identify those aspects needing improvement to assure that the public receives the highest quality of prehospital care.
   2. The role of the EMT-Basic in quality improvement
      a. Documentation
      b. Run reviews and audits
      c. Gathering feedback from patients and hospital staff
      d. Conducting preventative maintenance
      e. Continuing education
      f. Skill maintenance

E. Medical direction
   1. Definition
      a. A physician responsible for the clinical and patient care aspects of an EMS system.
      b. Every ambulance service/rescue squad must have physician medical direction.
      c. Types of medical direction
         (1) On-line
            (a) Telephone
            (b) Radio
         (2) Off-line
            (a) Protocols
            (b) Standing orders
      d. Responsible for reviewing quality improvement
   2. The relationship of the EMT-Basic to medical direction
      a. Designated agent of the physician
      b. Care rendered is considered an extension of the medical director's authority (varies by state law).

F. Specific statutes and regulations regarding EMS in your state

APPLICATION

Procedural (How)

None identified for this lesson.

Contextual (When, Where, Why)

The student will use this information throughout the course to enhance his understanding and provide direction for the EMT-Basic's relationship to the individual components of the EMS system. The lesson will provide the student with a road map for learning the skill and knowledge domains of the EMT-Basic. Additionally, this lesson will identify that not all students meet the mental and physical requirements of the career field. After completion of the course, the EMT-Basic will use this information to understand the process of gaining and maintaining certification, as well as understanding state and local legislation affecting the profession. This lesson sets the foundation for the remaining teaching/learning process. A positive, helpful attitude presented by the instructor is *essential* to assuring a positive, helpful attitude from the student.

STUDENT ACTIVITY

Auditory (Hear)

1. Students will hear specifically what they can expect to receive from the training program.
2. Students will hear the specific expectations of the training program.
3. Students will hear actual state and local legislation relative to EMS practice and certification.

Visual (See)

1. Students will see audio-visual aids or materials explaining the components of the health care system, EMT-Basic level of care, EMT-Basic's roles and responsibilities, professional attributes, and certification requirements.
2. Students will receive a copy of the cognitive, affective and psychomotor objectives for the entire curriculum.
3. Students will receive the final skill evaluation instruments.

Kinesthetic (Do)

1. Students will practice situations in which EMT-Basics portray professional attributes and experience ethical dilemmas.
2. Students will complete the necessary course paperwork.
3. Students will indicate if they will require/request assistance during the course or certification process based on the Americans with Disabilities Act. Additionally, students will provide the necessary documentation to support the requirements/request.

INSTRUCTOR ACTIVITIES

Supervise student practice.
Reinforce student progress in cognitive, affective, and psychomotor domains.
Redirect students having difficulty with content (complete remediation form).

EVALUATION

Written: Develop evaluation instruments, e.g., quizzes, verbal reviews, and handouts, to determine if the students have met the cognitive and affective objectives of this lesson.

Practical: Evaluate the actions of the EMT-Basic students during role play, practice or other skill stations to determine their compliance with the cognitive and affective objectives and their mastery of the psychomotor objectives of this lesson.

REMEDIATION

Identify students or groups of students who are having difficulty with this subject content. Complete remediation sheet from the instructor's course guide.

ENRICHMENT

What is unique in the local area concerning this topic? Complete enrichment sheets from instructor's course guide and attach with lesson plan.

MODULE 1

Preparatory

Lesson 1-2

Well-Being of the EMT-Basic

OBJECTIVES

OBJECTIVES LEGEND

C = Cognitive P = Psychomotor A = Affective
1 = Knowledge level
2 = Application level
3 = Problem-solving level

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

1-2.1 List possible emotional reactions that the EMT-Basic may experience when faced with trauma, illness, death and dying. (C-1)

1-2.2 Discuss the possible reactions that a family member may exhibit when confronted with death and dying.(C-1)

1-2.3 State the steps in the EMT-Basic's approach to the family confronted with death and dying.(C-1)

1-2.4 State the possible reactions that the family of the EMT-Basic may exhibit due to their outside involvement in EMS.(C-1)

1-2.5 Recognize the signs and symptoms of critical incident stress.(C-1)

1-2.6 State possible steps that the EMT-Basic may take to help reduce/alleviate stress.(C-1)

1-2.7 Explain the need to determine scene safety. (C-2)

1-2.8 Discuss the importance of body substance isolation (BSI).(C-1)

1-2.9 Describe the steps the EMT-Basic should take for personal protection from airborne and bloodborne pathogens.(C-1)

1-2.10 List the personal protective equipment necessary for each of the following situations:(C-1)
- Hazardous materials
- Rescue operations
- Violent scenes
- Crime scenes
- Exposure to bloodborne pathogens
- Exposure to airborne pathogens

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

1-2.11 Explain the rationale for serving as an advocate for the use of appropriate protective equipment. (A-3)

PSYCHOMOTOR OBJECTIVES

1-2.12 Given a scenario with potential infectious exposure, the EMT-Basic will use appropriate personal protective equipment. At the completion of the scenario, the EMT-Basic will properly remove and discard the protective garments. (P-1,2)

1-2.13 Given the above scenario, the EMT-Basic will complete disinfection/cleaning and all reporting documentation.(P-1,2)

PREPARATION

Motivation: EMT-Basics encounter many stressful situations providing emergency medical care to patients. These range from death and terminal illness to major traumatic situations and child abuse. EMT-Basics will treat angry, scared, violent, seriously injured and ill patients and family members. The EMT-Basic is not immune from the personal effects of these situations. EMT-Basics will learn during this lesson what to expect and how to assist the patient, patient's family, the EMT-Basic's family and other EMT-Basics in dealing with the stress. This lesson discusses methods of talking to friends and family, without violating confidentiality, but as a means of helping them cope with involvement in EMS. Finally, aspects of personal safety will be discussed. It is important to realize this is only a brief overview and will be readdressed with each specific skill or topic. To put this in perspective, remember: A dead or injured EMT-Basic is of little or no use to a patient.

Prerequisites: BLS

MATERIALS

AV Equipment: Utilize various audio-visual materials relating to the well-being of the EMT-Basic. The continuous design and development of new audio-visual materials relating to EMS requires careful review to determine which best meet the needs of the program. Materials should be edited to assure the objectives of the curriculum are met.

EMS Equipment: Eye protection, gowns, gloves, masks, forms for reporting exposures.

PERSONNEL

Primary Instructor: One EMT-Basic instructor knowledgeable in critical incident stress debriefing, identifying child/elderly abuse, stages of death and dying, and aspects of scene safety.

Assistant Instructor: None required.

Recommended Minimum Time to Complete: One and a half hours

PRESENTATION

Declarative (What)

I. Emotional Aspects of Emergency Care
  A. Death and dying
    1. Stages
      a. Denial ("Not me.") - defense mechanism creating a buffer between shock of dying and dealing with the illness/injury.
      b. Anger ("Why me.")
        (1) EMT-Basics may be the target of the anger.
        (2) Don't take anger or insults personally.
          (a) Be tolerant.
          (b) Do not become defensive.
        (3) Employ good listening and communication skills.
        (4) Be empathetic.

c. Bargaining ("OK, but first let me...") - agreement that, in the patient's mind, will postpone the death for a short time.
d. Depression ("OK, but I haven't...")
   (1) Characterized by sadness and despair.
   (2) Patient is usually silent and retreats into his own world.
e. Acceptance ("OK, I am not afraid.")
   (1) Does not mean the patient will be happy about dying.
   (2) The family will usually require more support during this stage than the patient.

2. Dealing with the dying patient and family members
   a. Patient needs include dignity, respect, sharing, communication, privacy and control.
   b. Family members may express rage, anger and despair.
   c. Listen empathetically.
   d. Do not falsely reassure.
   e. Use a gentle tone of voice.
   f. Let the patient know everything that can be done to help will be done.
   g. Use a reassuring touch, if appropriate.
   h. Comfort the family.

B. Stressful situations
   1. Examples of situations that may produce a stress response
      a. Mass casualty situations
      b. Infant and child trauma
      c. Amputations
      d. Infant/child/elder/spouse abuse
      e. Death/injury of co-worker or other public safety personnel
   2. The EMT-Basic will experience personal stress as well as encounter patients and bystanders in severe stress.

C. Stress management
   1. Recognize warning signs
      a. Irritability to co-workers, family, friends
      b. Inability to concentrate
      c. Difficulty sleeping/nightmares
      d. Anxiety
      e. Indecisiveness
      f. Guilt
      g. Loss of appetite

h. Loss of interest in sexual activities
i. Isolation
j. Loss of interest in work

2. Life-style changes
   a. Helpful for "job burnout"
   b. Change diet
      (1) Reduce sugar, caffeine and alcohol intake
      (2) Avoid fatty foods
      (3) Increase carbohydrates
   c. Exercise
   d. Practice relaxation techniques, meditation, visual imagery
3. Balance work, recreation, family, health, etc.
4. EMS personnel and their family's and friends' responses
   a. Lack of understanding
   b. Fear of separation and being ignored
   c. On-call situations cause stress
   d. Can't plan activities
   e. Frustration caused by wanting to share
5. Work environment changes
   a. Request work shifts allowing for more time to relax with family and friends.
   b. Request a rotation of duty assignment to a less busy area.
6. Seek/refer professional help.

D. Critical incident stress debriefing (CISD)
1. A team of peer counsellors and mental health professionals who help emergency care workers deal with critical incident stress.
2. Meeting is held within 24 to 72 hours of a major incident.
   a. Open discussion of feelings, fears, and reactions
   b. Not an investigation or interrogation
   c. All information is confidential
   d. CISD leaders and mental health personnel evaluate the information and offer suggestions on overcoming the stress.
3. Designed to accelerate the normal recovery process after experiencing a critical incident.
   a. Works well because feelings are ventilated quickly.
   b. Debriefing environment is non-threatening.
4. How to access local CISD system.

E. Comprehensive critical incident stress management includes:
   1. Pre-incident stress education
   2. On-scene peer support
   3. One-on-one support
   4. Disaster support services
   5. Defusings
   6. CISD
   7. Follow up services
   8. Spouse/family support
   9. Community outreach programs
   10. Other health and welfare programs such as wellness programs

II. Scene Safety
   A. Body substance isolation (BSI) (Bio-Hazard)
      1. EMT-Basic's and patient's safety
         a. Hand washing
         b. Eye protection
            (1) If prescription eyeglasses are worn, then removable side shields can be applied to them.
            (2) Goggles are NOT required.
         c. Gloves (vinyl or latex)
            (1) Needed for contact with blood or bloody body fluids.
            (2) Should be changed between contact with different patients.
         d. Gloves (utility) - needed for cleaning vehicles and equipment
         e. Gowns
            (1) Needed for large splash situations such as with field delivery and major trauma.
            (2) Change of uniform is preferred.
         f. Masks
            (1) Surgical type for possible blood splatter (worn by care provider)
            (2) High Efficiency Particulate Air (HEPA) respirator if patient suspected for or diagnosed with tuberculosis (worn by care provider)
            (3) Airborne disease - surgical type mask (worn by patient)
         g. Requirements and availability of specialty training

2. OSHA/state regulations regarding BSI
3. Statutes/regulations reviewing notification and testing in an exposure incident

B. Personal protection
   1. Hazardous materials
      a. Identify possible hazards
         (1) Binoculars
         (2) Placards
         (3) *Hazardous Materials, The Emergency Response Handbook*, published by the United States Department of Transportation
      b. Protective clothing
         (1) Hazardous material suits
         (2) Self Contained Breathing Apparatus
      c. Hazardous materials scenes are controlled by specialized Haz-Mat teams.
      d. EMT-Basics provide emergency care only after the scene is safe and patient contamination limited.
      e. Requirements and availability of specialized training
   2. Rescue
      a. Identify and reduce potential life threats.
         (1) Electricity
         (2) Fire
         (3) Explosion
         (4) Hazardous materials
      b. Protective clothing
         (1) Turnout gear
         (2) Puncture-proof gloves
         (3) Helmet
         (4) Eye wear
      c. Dispatch rescue teams for extensive/heavy rescue.

3. Violence
   a. Scene should always be controlled by law enforcement before EMT-Basic provides patient care.
      (1) Perpetrator of the crime
      (2) Bystanders
      (3) Family members
   b. Behavior at crime scene (covered in greater detail in Medical/Legal and Ethical Issues, Module 1, Lesson 1-3).
      (1) Do not disturb the scene unless required for medical care.
      (2) Maintain chain of evidence.

III. Safety Precautions in Advance - Suggested Immunizations
   A. Tetanus prophylaxis
   B. Hepatitis B vaccine
   C. Verification of immune status with respect to commonly transmitted contagious diseases
   D. Access or availability of immunizations in the community
   E. Tuberculin purified protein derivative (PPD) testing
   F. Others

APPLICATION

Procedural (How)

1. The EMT-Basic will know how to access additional information on hazardous materials and infectious disease exposure, notification and follow-up.

Contextual (When, Where, Why)

1. The EMT-Basic will use the aspects of scene safety and personal protection every day and on every emergency run.
2. While the EMT-Basic may not be a member of a hazardous material or heavy rescue team, this lesson should provide the personal incentive to seek out and attend continuing education programs relative to personal safety during hazardous material incidents, rescue situations and violent crime scenes.
3. If the EMT-Basic fails to develop personal safety skills, his EMT-Basic career may come to a premature end through serious injury or death.

4. The well-being of the EMT-Basic depends upon his ability to recognize that stressful traumatic situations do occur and the effect of those situations is felt by the patient, family members and the EMT-Basic. In recognizing this, the EMT-Basic must be aware of internal and external mechanisms to help himself, the patient, patient's families, EMT-Basic's family and other EMT-Basics deal with reactions to stress.
5. The EMT-Basic will use proper communication techniques when dealing with the grieving process.

STUDENT ACTIVITIES

Auditory (Hear)

1. The student will hear the instructor demonstrate methods of communicating with patients and family members of terminally ill patients.
2. The student will hear the instructor demonstrate methods of communicating with friends and family members of a dead or dying patient.

Visual (See)

1. The student will see various audio-visual aids or materials of scenes requiring personal protection.
2. The student will see various audio-visual aids or materials of personal protection clothing worn by hazardous material/rescue teams.
3. The student will see the gown, gloves, mask and eye protection associated with body substance isolation (BSI).

Kinesthetic (Do)

1. The student will practice role play, talking to patients in various stressful/traumatic situations.
2. The student will practice putting on and removing gowns, gloves and eye protection gear.

INSTRUCTOR ACTIVITIES

Supervise student practice.
Reinforce student progress in cognitive, affective, and psychomotor domains.
Redirect students having difficulty with content (complete remediation forms).

EVALUATION

Written: Develop evaluation instruments, e.g., quizzes, verbal reviews, and handouts, to determine if the students have met the cognitive and affective objectives of this lesson.

Practical: Evaluate the actions of the EMT-Basic students during role play, practice or other skill stations to determine their compliance with the cognitive and affective objectives and their mastery of the psychomotor objectives of this lesson.

REMEDIATION

Identify students or groups of students who are having difficulty with this subject content. Complete remediation sheet from the instructor's course guide.

ENRICHMENT

What is unique in the local area concerning this topic? Complete enrichment sheets from instructor's course guide and attach with lesson plan.

MODULE 1

Preparatory

Lesson 1-5

Baseline Vital Signs and SAMPLE History

OBJECTIVES

OBJECTIVES LEGEND

C = Cognitive P = Psychomotor A = Affective
1 = Knowledge level
2 = Application level
3 = Problem-solving level

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

1-5.1 Identify the components of vital signs.(C-1)
1-5.2 Describe the methods to obtain a breathing rate.(C-1)
1-5.3 Identify the attributes that should be obtained when assessing breathing.(C-1)
1-5.4 Differentiate between shallow, labored and noisy breathing.(C-3)
1-5.5 Describe the methods to obtain a pulse rate.(C-1)
1-5.6 Identify the information obtained when assessing a patient's pulse.(C-1)
1-5.7 Differentiate between a strong, weak, regular and irregular pulse.(C-3)
1-5.8 Describe the methods to assess the skin color, temperature, condition (capillary refill in infants and children).(C-1)
1-5.9 Identify the normal and abnormal skin colors.(C-1)
1-5.10 Differentiate between pale, blue, red and yellow skin color. (C-3)
1-5.11 Identify the normal and abnormal skin temperature.(C-1)
1-5.12 Differentiate between hot, cool and cold skin temperature. (C-3)
1-5.13 Identify normal and abnormal skin conditions.(C-1)
1-5.14 Identify normal and abnormal capillary refill in infants and children.(C-1)
1-5.15 Describe the methods to assess the pupils.(C-1)
1-5.16 Identify normal and abnormal pupil size.(C-1)
1-5.17 Differentiate between dilated (big) and constricted (small) pupil size. (C-3)
1-5.18 Differentiate between reactive and non-reactive pupils and equal and unequal pupils. (C-3)
1-5.19 Describe the methods to assess blood pressure.(C-1)

1-5.20 Define systolic pressure.(C-1)
1-5.21 Define diastolic pressure.(C-1)
1-5.22 Explain the difference between auscultation and palpation for obtaining a blood pressure.(C-1)
1-5.23 Identify the components of the SAMPLE history.(C-1)
1-5.24 Differentiate between a sign and a symptom. (C-3)
1-5.25 State the importance of accurately reporting and recording the baseline vital signs.(C-1)
1-5.26 Discuss the need to search for additional medical identification.(C-1)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

1-5.27 Explain the value of performing the baseline vital signs.(A-2)
1-5.28 Recognize and respond to the feelings patients experience during assessment.(A-1)
1-5.29 Defend the need for obtaining and recording an accurate set of vital signs.(A-3)
1-5.30 Explain the rationale of recording additional sets of vital signs.(A-1)
1-5.31 Explain the importance of obtaining a SAMPLE history.(A-1)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

1-5.32 Demonstrate the skills involved in assessment of breathing.(P-1,2)
1-5.33 Demonstrate the skills associated with obtaining a pulse. (P-1,2)
1-5.34 Demonstrate the skills associated with assessing the skin color, temperature, condition, and capillary refill in infants and children.(P-1,2)
1-5.35 Demonstrate the skills associated with assessing the pupils. (P-1,2)
1-5.36 Demonstrate the skills associated with obtaining blood pressure.(P-1,2)
1-5.37 Demonstrate the skills that should be used to obtain information from the patient, family, or bystanders at the scene. (P-1,2)

PREPARATION

Motivation: An EMT-Basic must be able to accurately assess and record a patient's vital signs. This must be done to record trends in the patient's condition. In addition to vital signs, obtain a SAMPLE history in the event that the patient loses consciousness.

Prerequisite Skills: BLS

MATERIALS

AV Equipment: Utilize various audio-visual materials relating to vital signs and SAMPLE history. The continuous design and development of new audio-visual materials relating to EMS requires careful review to determine which best meet the needs of the program. Materials should be edited to assure the objectives of the curriculum are met.

EMS Equipment: Exam gloves, stethoscope (dual and single head)(1:6), blood pressure cuffs (adult, infant and child)(1:6), penlights (1:6).

PERSONNEL

Primary Instructor: One EMT-Basic instructor knowledgeable in patient assessment.

Assistant Instructor: The instructor-to-student ratio should be 1:6 for psychomotor skill practice. Individuals used as assistant instructors should be knowledgeable in assessing baseline vital signs and SAMPLE histories.

Recommended Minimum Time to Complete: Two hours

PRESENTATION

Declarative (What)

I. General Information
   - A. Chief complaint - why EMS was notified
   - B. Age - years, months, days
   - C. Sex - male or female
   - D. Race

II. Baseline Vital Signs
   - A. Breathing - assessed by observing the patient's chest rise and fall.
     1. Rate is determined by counting the number of breaths in a 30-second period and multiplying by 2. Care should be taken not to inform the patient, to avoid influencing the rate.
     2. Quality of breathing can be determined while assessing the rate. Quality can be placed in 1 of 4 categories:
        - a. Normal - average chest wall motion, not using accessory muscles.
        - b. Shallow - slight chest or abdominal wall motion.
        - c. Labored
          - (1) An increase in the effort of breathing
          - (2) Grunting and stridor
          - (3) Often characterized by the use of accessory muscles
          - (4) Nasal flaring, supraclavicular and intercostal retractions in infants and children
          - (5) Sometimes gasping
        - d. Noisy - an increase in the audible sound of breathing. May include snoring, wheezing, gurgling, crowing.
   - B. Pulse
     1. Initially a radial pulse should be assessed in all patients one year or older. In patients less than one year of age a brachial pulse should be assessed.
     2. If the pulse is present, assess rate and quality.
        - a. Rate is the number of beats felt in 30 seconds multiplied by 2.
        - b. Quality of the pulse can be characterized as:
          - (1) Strong
          - (2) Weak
          - (3) Regular

(4) Irregular

3. If peripheral pulse is not palpable, assess carotid pulse.
   a. Use caution. Avoid excess pressure on geriatrics.
   b. Never attempt to assess carotid pulse on both sides at one time.

C. Assess skin to determine perfusion.
1. The patient's color should be assessed in the nail beds, oral mucosa, and conjunctiva.
   a. In infants and children, palms of hands and soles of feet should be assessed.
   b. Normal skin - pink
   c. Abnormal skin colors
      (1) Pale - indicating poor perfusion (impaired blood flow)
      (2) Cyanotic (blue-gray) - indicating inadequate oxygenation or poor perfusion
      (3) Flushed (red) - indicating exposure to heat or carbon monoxide poisoning.
      (4) Jaundice (yellow) - indicating liver abnormalities
2. The patient's temperature should be assessed by placing the back of your hand on the patient's skin.
   a. Normal - warm
   b. Abnormal skin temperatures
      (1) Hot - indicating fever or an exposure to heat.
      (2) Cool - indicating poor perfusion or exposure to cold.
      (3) Cold - indicates extreme exposure to cold.
3. Assess the condition of the patient's skin.
   a. Normal - dry
   b. Abnormal - skin is wet, moist, or dry.
4. Assess capillary refill in infants and children less than six years of age.
   a. Capillary refill in infants and children is assessed by pressing on the patient's skin or nail beds and determining time for return to initial color.
   b. Normal capillary refill in infants and children is < 2 seconds.
   c. Abnormal capillary refill in infants and children is > 2 seconds.

D. Pupils are assessed by briefly shining a light into the patient's eyes, and determining size and reactivity.
   1. Dilated (very big), normal, or constricted (small).
   2. Equal or unequal
   3. Reactivity is whether or not the pupils change in response to the light.
      a. Reactive - change when exposed to light
      b. Non-reactive - do not change when exposed to light
      c. Equally or unequally reactive

E. Blood pressure
   1. Assess systolic and diastolic pressures.
      a. Systolic blood pressure is the first distinct sound of blood flowing through the artery as the pressure in the blood pressure cuff is released. This is a measurement of the pressure exerted against the walls of the arteries during contraction of the heart.
      b. Diastolic blood pressure is the point during deflation of the blood pressure cuff at which sounds of the pulse beat disappear. It represents the pressure exerted against the walls of the arteries while the left ventricle is at rest.
      c. There are two methods of obtaining blood pressure.
         (1) Auscultation: In this case the EMT-Basic will listen for the systolic and diastolic sounds.
         (2) Palpation: In certain situations, the systolic blood pressure may be measured by feeling for return of pulse with deflation of the cuff.
   2. Blood pressure should be measured in all patients older than 3 years of age.
   3. The general assessment of the infant or child patient, such as sick appearing, in respiratory distress, or unresponsive, is more valuable than vital sign numbers.

F. Vital sign reassessment
   1. Vital signs should be assessed and recorded every 15 minutes at a minimum in a stable patient.
   2. Vital signs should be assessed and recorded every 5 minutes in the unstable patient.
   3. Vital signs should be assessed following all medical interventions.

III. Obtain an SAMPLE history.
- A. Signs/Symptoms
  1. Sign - any medical or trauma condition displayed by the patient and identifiable by the EMT-Basic, e.g., Hearing = respiratory distress, Seeing = bleeding, Feeling = skin temperature.
  2. Symptom - any condition described by the patient, e.g., shortness of breath.
- B. Allergies
  1. Medications
  2. Food
  3. Environmental allergies
  4. Consider medical identification tag
- C. Medications
  1. Prescription
     a. Current
     b. Recent
     c. Birth control pills
  2. Non-prescription
     a. Current
     b. Recent
  3. Consider medical identification tag
- D. Pertinent Past History
  1. Medical
  2. Surgical
  3. Trauma
  4. Consider medical identification tag
- E. Last oral intake: Solid or liquid
  1. Time
  2. Quantity
- F. Events leading to the injury or illness
  1. Chest pain with exertion
  2. Chest pain while at rest

APPLICATION

Procedural (How)

1. Demonstrate the skill of assessing breathing.
2. Demonstrate the skill of determining a pulse.

3. Demonstrate the skill of determining skin color, temperature, condition.
4. Demonstrate the skill of determining capillary refill in infants and children.
5. Demonstrate the skill of assessing pupils for size, reactivity and equality.
6. Demonstrate the skill of assessing blood pressure
   a. Auscultation
   b. Palpation
7. Discussion on questioning techniques to obtain history.

Contextual (When, Where, Why)

Accurate measurement and recording of vital signs over a period of time may indicate a trend in the patient's condition and be valuable in the continuum of care. There are a number of interventions that the EMT-Basic can perform; however, these skills cannot be performed without an accurate set of baseline vital signs. The SAMPLE history is important to guide the pace of the EMT-Basic and assist in the continuum of care at the receiving facility.

STUDENT ACTIVITIES

Auditory (Hear)

1. Students should hear normal and abnormal breathing.
2. Student should hear with a stethoscope and assess systolic and diastolic pressures.
3. Student should hear 5 components of the SAMPLE history.

Visual (See)

1. Students should see a simulated or actual patient's chest rise and fall and assess rate and quality of breathing.
2. Students should see appropriate areas of the body to assess the color and condition (and in infants and children < 6 years of age, the capillary refill).
3. Students should see pupils to assess size, reactivity and equality.

Kinesthetic (Do)

1. Students should practice methods for assessing breathing.
2. Students should practice methods for obtaining a pulse.
3. Students should practice methods for determining skin color, temperature, condition, (and capillary refill in infants and children < 6 years of age).
4. Students should practice methods for determining pupil size, reactivity and equality.
5. Students should practice methods for determining blood pressure by auscultation and palpation.
6. Students should practice methods for obtaining an SAMPLE history.

7. Students should practice completing a prehospital care report including vital signs and SAMPLE history.

INSTRUCTOR ACTIVITIES

Supervise student practice.
Reinforce student progress in cognitive, affective, and psychomotor domains.
Redirect students having difficulty with content (complete remediation forms).

EVALUATION

Written: Develop evaluation instruments, e.g., quizzes, verbal reviews, and handouts, to determine if the students have met the cognitive and affective objectives of this lesson.

Practical: Evaluate the actions of the EMT-Basic students during role play, practice or other skill stations to determine their compliance with the cognitive and affective objectives and their mastery of the psychomotor objectives of this lesson.

REMEDIATION

Identify students or groups of students who are having difficulty with this subject content. Complete remediation sheet from the instructor's course guide.

ENRICHMENT

What is unique in the local area concerning this topic? Complete enrichment sheets from instructor's course guide and attach with lesson plan.

MODULE 1

Preparatory

Lesson 1-6

Lifting and Moving Patients

OBJECTIVES

OBJECTIVES LEGEND

C = Cognitive P = Psychomotor A = Affective
1 = Knowledge level
2 = Application level
3 = Problem-solving level

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

1-6.1 Define body mechanics. (C-1)
1-6.2 Discuss the guidelines and safety precautions that need to be followed when lifting a patient.(C-1)
1-6.3 Describe the safe lifting of cots and stretchers.(C-1)
1-6.4 Describe the guidelines and safety precautions for carrying patients and/or equipment.(C-1)
1-6.5 Discuss one-handed carrying techniques.(C-1)
1-6.6 Describe correct and safe carrying procedures on stairs.(C-1)
1-6.7 State the guidelines for reaching and their application. (C-1)
1-6.8 Describe correct reaching for log rolls.(C-1)
1-6.9 State the guidelines for pushing and pulling.(C-1)
1-6.10 Discuss the general considerations of moving patients.(C-1)
1-6.11 State three situations that may require the use of an emergency move.(C-1)
1-6.12 Identify the following patient carrying devices:

- Wheeled ambulance stretcher
- Portable ambulance stretcher
- Stair chair
- Scoop stretcher
- Long spine board
- Basket stretcher
- Flexible stretcher (C-1)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

1-6.13 Explain the rationale for properly lifting and moving patients.(A-3)

PSYCHOMOTOR OBJECTIVES

1-6.14 Working with a partner, prepare each of the following devices for use, transfer a patient to the device, properly position the patient on the device, move the device to the ambulance and load the patient into the ambulance:

- Wheeled ambulance stretcher
- Portable ambulance stretcher
- Stair chair
- Scoop stretcher
- Long spine board
- Basket stretcher
- Flexible stretcher (P-1,2)

1-6.15 Working with a partner, the EMT-Basic will demonstrate techniques for the transfer of a patient from an ambulance stretcher to a hospital stretcher.(P-1,2)

PREPARATION

Motivation: Many EMT-Basics are injured every year because they attempt to lift patients improperly.

Prerequisites: BLS

MATERIALS

AV Equipment: Utilize various audio-visual materials relating to lifting and moving techniques. The continuous design and development of new audio-visual materials relating to EMS requires careful review to determine which best meet the needs of the program. Materials should be edited to assure the objectives of the curriculum are met.

EMS Equipment: Wheeled stretcher, stair chair, scoop stretcher, flexible stretcher, ambulance, long and short backboards, bed.

PERSONNEL

Primary Instructor: One EMT-Basic instructor knowledgeable in this area.

Assistant Instructor: The instructor-to-student ratio should be 1:6 for psychomotor skills practice. Individuals used as assistant instructors should be knowledgeable about lifting and moving patients.

Recommended Minimum Time to Complete: Three hours

PRESENTATION

Declarative (What)

I. Body Mechanics
   A. Lifting techniques
      1. Safety precautions
         a. Use legs, not back, to lift.
         b. Keep weight as close to body as possible.
      2. Guidelines for lifting
         a. Consider weight of patient and need for additional help.
         b. Know physical ability and limitations.
         c. Lift without twisting.
         d. Have feet positioned properly.
         e. Communicate clearly and frequently with partner.
      3. Safe lifting of cots and stretchers. When possible use a stair chair instead of a stretcher if medically appropriate.
         a. Know or find out the weight to be lifted.
         b. Use at least two people.
         c. Ensure enough help available. Use an even number of people to lift so that balance is maintained.
            (1) Know or find out the weight limitations of equipment being used.
            (2) Know what to do with patients who exceed weight limitations of equipment.

d. Using power-lift or squat lift position, keep back locked into normal curvature. The power-lift position is useful for individuals with weak knees or thighs. The feet are a comfortable distance apart. The back is tight and the abdominal muscles lock the back in a slight inward curve. Straddle the object. Keep feet flat. Distribute weight to balls of feet or just behind them. Stand by making sure the back is locked in and the upper body comes up before the hips.
e. Use power grip to get maximum force from hands. The palm and fingers come into complete contact with the object and all fingers are bent at the same angles. The power-grip should always be used in lifting. This allows for maximum force to be developed. Hands should be at least 10 inches apart.
f. Lift while keeping back in locked-in position.
g. When lowering cot or stretcher, reverse steps.
h. Avoid bending at the waist.

B. Carrying
1. Precautions for carrying - whenever possible, transport patients on devices that can be rolled.
2. Guidelines for carrying
a. Know or find out the weight to be lifted.
b. Know limitations of the crew's abilities.
c. Work in a coordinated manner and communicate with partners.
d. Keep the weight as close to the body as possible.
e. Keep back in a locked-in position and refrain from twisting.
f. Flex at the hips, not the waist; bend at the knees.
g. Do not hyperextend the back (do not lean back from the waist).
3. Correct carrying procedure
a. Use correct lifting techniques to lift the stretcher.
b. Partners should have similar strength and height.
4. One-handed carrying technique
a. Pick up and carry with the back in the locked-in position.
b. Avoid leaning to either side to compensate for the imbalance.

5. Correct carrying procedure on stairs
   a. When possible, use a stair chair instead of a stretcher.
   b. Keep back in locked-in position.
   c. Flex at the hips, not the waist; bend at the knees.
   d. Keep weight and arms as close to the body as possible.

C. Reaching
   1. Guidelines for reaching
      a. Keep back in locked-in position.
      b. When reaching overhead, avoid hyperextended position.
      c. Avoid twisting the back while reaching.
   2. Application of reaching techniques
      a. Avoid reaching more than 15 - 20 inches in front of the body.
      b. Avoid situations where prolonged (more than a minute) strenuous effort is needed in order to avoid injury.
   3. Correct reaching for log rolls
      a. Keep back straight while leaning over patient.
      b. Lean from the hips.
      c. Use shoulder muscles to help with roll.

D. Pushing and pulling guidelines
   1. Push, rather than pull, whenever possible.
   2. Keep back locked-in.
   3. Keep line of pull through center of body by bending knees.
   4. Keep weight close to the body.
   5. Push from the area between the waist and shoulder.
   6. If weight is below waist level, use kneeling position.
   7. Avoid pushing or pulling from an overhead position if possible.
   8. Keep elbows bent with arms close to the sides.

II. Principles of Moving Patients
   A. General considerations
      1. In general, a patient should be moved <u>immediately</u> (emergency move) only when:
         a. There is an immediate danger to the patient if not moved.
            (1) Fire or danger of fire.
            (2) Explosives or other hazardous materials.
            (3) Inability to protect the patient from other hazards at the scene.
            (4) Inability to gain access to other patients in a vehicle who need life-saving care.

b. Life-saving care cannot be given because of the patient's location or position, e.g., a cardiac arrest patient sitting in a chair or lying on a bed.

2. A patient should be moved quickly (urgent move) when there is immediate threat to life.
   a. Altered mental status
   b. Inadequate breathing
   c. Shock (hypoperfusion)
3. If there is no threat to life, the patient should be moved when ready for transportation (non-urgent move).

B. Emergency moves
1. The greatest danger in moving a patient quickly is the possibility of aggravating a spine injury.
2. In an emergency, every effort should be made to pull the patient in the direction of the long axis of the body to provide as much protection to the spine as possible.
3. It is impossible to remove a patient from a vehicle quickly and at the same time provide as much protection to the spine as can be accomplished with an interim immobilization device.
4. If the patient is on the floor or ground, he can be moved by:
   a. Pulling on the patient's clothing in the neck and shoulder area.
   b. Putting the patient on a blanket and dragging the blanket.
   c. Putting the EMT-Basic's hands under the patient's armpits (from the back), grasping the patient's forearms and dragging the patient.

C. Urgent moves
1. Rapid extrication of patient sitting in vehicle
   a. One EMT-Basic gets behind patient and brings cervical spine into neutral in-line position and provides manual immobilization.
   b. A second EMT-Basic applies cervical immobilization device as the third EMT-Basic first places long backboard near the door and then moves to the passenger seat.
   c. The second EMT-Basic supports the thorax as the third EMT-Basic frees the patient's legs from the pedals.
   d. At the direction of the second EMT-Basic, he and the third EMT-Basic rotate the patient in several short, coordinated moves until the patient's back is in the open doorway and his feet are on the passenger seat.

e. Since the first EMT-Basic usually cannot support the patient's head any longer, another available EMT-Basic or a bystander supports the patient's head as the first EMT-Basic gets out of the vehicle and takes support of the head outside of the vehicle.
f. The end of the long backboard is placed on the seat next to the patient's buttocks. Assistants support the other end of the board as the first EMT-Basic and the second EMT-Basic lower the patient onto it.
g. The second EMT-Basic and the third EMT-Basic slide the patient into the proper position on the board in short, coordinated moves.
h. Several variations of the technique are possible, including assistance from bystanders. Must be accomplished without compromise to the spine.

D. Non-urgent moves
1. Direct ground lift (no suspected spine injury)
a. Two or three rescuers line up on one side of the patient.
b. Rescuers kneel on one knee (preferably the same for all rescuers).
c. The patient's arms are placed on his chest if possible.
d. The rescuer at the head places one arm under the patient's neck and shoulder and cradles the patient's head. He places his other arm under the patient's lower back.
e. The second rescuer places one arm under the patient's knees and one arm above the buttocks.
f. If a third rescuer is available, he should place both arms under the waist and the other two rescuers slide their arms either up to the mid-back or down to the buttocks as appropriate.
g. On signal, the rescuers lift the patient to their knees and roll the patient in toward their chests.
h. On signal, the rescuers stand and move the patient to the stretcher.
i. To lower the patient, the steps are reversed.
2. Extremity lift (no suspected extremity injuries)
a. One rescuer kneels at the patient's head and one kneels at the patient's side by his knees.

b. The rescuer at the head places one hand under each of the patient's shoulders while the rescuer at the foot grasps the patient's wrists.
c. The rescuer at the head slips his hands under the patient's arms and grasps the patient's wrists.
d. The rescuer at the patient's foot slips his hands under the patient's knees.
e. Both rescuers move up to a crouching position.
f. The rescuers stand up simultaneously and move with the patient to a stretcher.

3. Transfer of supine patient from bed to stretcher
   a. Direct carry
      (1) Position cot perpendicular to bed with head end of cot at foot of bed.
      (2) Prepare cot by unbuckling straps and removing other items.
      (3) Both rescuers stand between bed and stretcher, facing patient.
      (4) First rescuer slides arm under patient's neck and cups patient's shoulder.
      (5) Second rescuer slides hand under hip and lifts slightly.
      (6) First rescuer slides other arm under patient's back.
      (7) Second rescuer places arms underneath hips and calves.
      (8) Rescuers slide patient to edge of bed.
      (9) Patient is lifted/curled toward the rescuers' chests.
      (10) Rescuers rotate and place patient gently onto cot.
   b. Draw sheet method
      (1) Loosen bottom sheet of bed.
      (2) Position cot next to bed.
      (3) Prepare cot: Adjust height, lower rails, unbuckle straps.
      (4) Reach across cot and grasp sheet firmly at patient's head, chest, hips and knees.
      (5) Slide patient gently onto cot.

III. Equipment
- A. Stretchers/cots
  - 1. Types
    - a. Wheeled stretcher
      - (1) Most commonly used device
      - (2) Rolling
        - (a) Restricted to smooth terrain.
        - (b) Foot end should be pulled.
        - (c) One person must guide the stretcher at head.
      - (3) Carrying
        - (a) Two rescuers
          - i) Preferable in narrow spaces, but requires more strength.
          - ii) Easily unbalanced.
          - iii) Rescuers should face each other from opposite ends of stretcher.
        - (b) Four rescuers
          - i) One rescuer at each corner.
          - ii) More stability and requires less strength.
          - iii) Safer over rough terrain.
      - (4) Loading into ambulance
        - (a) Use sufficient lifting power.
        - (b) Load hanging stretchers before wheeled stretchers.
        - (c) Follow manufacturer's directions.
        - (d) Ensure all cots and patients secured before moving ambulance.
    - b. Portable stretcher
    - c. Stair chair
    - d. Backboards
      - (1) Long
        - (a) Traditional wooden device
        - (b) Manufactured varieties
      - (2) Short
        - (a) Traditional wooden device
        - (b) Vest type device
    - e. Scoop or orthopedic stretcher
    - f. Flexible stretcher

2. Maintenance - follow manufacturer's directions for inspection, cleaning, repair and upkeep.

B. Patient positioning
   1. An unresponsive patient without suspected spine injury should be moved into the recovery position by rolling the patient onto his side (preferably the left) without twisting the body.
   2. A patient with chest pain or discomfort or difficulty breathing should sit in a position of comfort as long as hypotension is not present.
   3. A patient with suspected spine injury should be immobilized on a long backboard.
   4. A patient in shock (hypoperfusion) should have his legs elevated 8 - 12 inches.
   5. For the pregnant patient with hypotension, an early intervention is to position the patient on her left side.
   6. A patient who is nauseated or vomiting should be transported in a position of comfort; however, the EMT-Basic should be positioned appropriately to manage the airway.

APPLICATION

Procedural (how)

1. Show examples of proper lifting.
2. Show examples of proper carrying.
3. Show examples of proper reaching.
4. Show examples of situations where emergency moves are appropriate.
5. Show examples of situations where urgent moves are appropriate.
6. Show examples of situations where non-urgent moves are appropriate.
7. Demonstrate emergency moves.
8. Demonstrate urgent moves.
9. Demonstrate non-urgent moves.
10. Demonstrate transfer of patient to stretcher.
11. Show examples of different types of carrying devices.
12. Demonstrate knowledge of appropriate selection of each carrying device.
12. Demonstrate carrying a patient on a stretcher.
13. Demonstrate loading a patient on a stretcher into an ambulance.
14. Demonstrate use of a stair chair.
15. Demonstrate use of a scoop stretcher.

16. Demonstrate positioning patients with different conditions.
    A. Unresponsiveness
    B. Chest pain/discomfort or difficulty breathing
    C. Suspected spine injury
    D. Shock (hypoperfusion)
    E. Patients who are vomiting or nauseous
    F. Pregnant patient

Contextual (When, Where, Why)

When to transport a patient is determined by both the patient's condition and the environment in which he is found. The determination of how to transport the patient is made by considering his complaint, the severity of his condition and his location.

STUDENT ACTIVITIES

Auditory (Hear)

None identified for this lesson.

Visual (See)

1. The student should see proper lifting techniques.
2. The student should see proper carrying techniques.
3. The student should see proper reaching techniques.
4. The student should see situations where emergency moves are appropriate.
5. The student should see situations where urgent moves are appropriate.
6. The student should see situations where non-urgent moves are appropriate.
7. The student should see emergency moves.
8. The student should see urgent moves.
9. The student should see non-urgent moves.
10. The student should see a patient transferred to a stretcher.
11. The student should see different types of carrying devices.
12. The student should see a patient carried on a stretcher.
13. The student should see a patient on a stretcher loaded into an ambulance.
14. The student should see a stair chair used.
15. The student should see a scoop stretcher used.
16. The student should see patients with different conditions positioned properly.
    A. Unresponsiveness
    B. Chest pain/discomfort or difficulty breathing
    C. Suspected spine injury
    D. Shock (hypoperfusion)
    E. Patients who are vomiting or nauseous

F. Pregnant patient

Kinesthetic (Do)

1. The student should practice proper lifting techniques.
2. The student should practice proper carrying techniques.
3. The student should practice proper reaching techniques.
4. The student should practice determining whether emergency, urgent or non-emergency moves are appropriate.
5. The student should practice emergency moves.
6. The student should practice urgent moves.
7. The student should practice non-urgent moves.
8. The student should practice transferring a patient to a stretcher.
9. The student should practice carrying a patient on a stretcher.
10. The student should practice loading a patient on a stretcher into an ambulance.
11. The student should practice using a stair chair.
12. The student should practice using a scoop stretcher.
13. The student should practice positioning patients with different conditions.
    A. Unresponsiveness
    B. Chest pain/discomfort or difficulty breathing
    C. Suspected spine injury
    D. Shock (hypoperfusion)
    E. Patients who are vomiting or nauseous
    F. Pregnant patients

INSTRUCTOR ACTIVITIES

Supervise student practice.
Reinforce student progress in cognitive, affective, and psychomotor domains.
Redirect students having difficulty with content (complete remediation forms).

EVALUATION

Written: Develop evaluation instruments, e.g., quizzes, verbal reviews, and handouts, to determine if the students have met the cognitive and affective objectives of this lesson.

Practical: Evaluate the actions of the EMT-Basic students during role play, practice, or other skill stations to determine their compliance with the cognitive and affective objectives and their mastery of the psychomotor objectives of this lesson.

G.

REMEDIATION

Identify students or groups of students who are having difficulty with this subject content. Complete remediation sheet from the instructor's course guide.

ENRICHMENT

What is unique in the local area concerning this topic? Complete enrichment sheets from instructor's guide and attach with lesson plan.

MODULE 3

Patient Assessment

Lesson 3-2

Initial Assessment

OBJECTIVES

OBJECTIVES LEGEND

C = Cognitive P = Psychomotor A = Affective
1 = Knowledge level
2 = Application level
3 = Problem-solving level

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

3-2.1 Summarize the reasons for forming a general impression of the patient.(C-1)
3-2.2 Discuss methods of assessing altered mental status.(C-1)
3-2.3 Differentiate between assessing the altered mental status in the adult, child and infant patient.(C-3)
3-2.4 Discuss methods of assessing the airway in the adult, child and infant patient.(C-1)
3-2.5 State reasons for management of the cervical spine once the patient has been determined to be a trauma patient.(C-1)
3-2.6 Describe methods used for assessing if a patient is breathing.(C-1)
3-2.7 State what care should be provided to the adult, child and infant patient with adequate breathing.(C-1)
3-2.8 State what care should be provided to the adult, child and infant patient without adequate breathing.(C-1)
3-2.9 Differentiate between a patient with adequate and inadequate breathing.(C-3)
3-2.10 Distinguish between methods of assessing breathing in the adult, child and infant patient.(C-3)
3-2.11 Compare the methods of providing airway care to the adult, child and infant patient.(C-3)
3-2.12 Describe the methods used to obtain a pulse.(C-1)
3-2.13 Differentiate between obtaining a pulse in an adult, child and infant patient.(C-3)
3-2.14 Discuss the need for assessing the patient for external bleeding.(C-1)

3-2.15 Describe normal and abnormal findings when assessing skin color.(C-1)
3-2.16 Describe normal and abnormal findings when assessing skin temperature.(C-1)
3-2.17 Describe normal and abnormal findings when assessing skin condition.(C-1)
3-2.18 Describe normal and abnormal findings when assessing skin capillary refill in the infant and child patient.(C-1)
3-2.19 Explain the reason for prioritizing a patient for care and transport.(C-1)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:
3-2.20 Explain the importance of forming a general impression of the patient.(A-1)
3-2.21 Explain the value of performing an initial assessment.(A-2)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:
3-2.22 Demonstrate the techniques for assessing mental status.(P-1,2)
3-2.23 Demonstrate the techniques for assessing the airway.(P-1,2)
3-2.24 Demonstrate the techniques for assessing if the patient is breathing.(P-1,2)
3-2.25 Demonstrate the techniques for assessing if the patient has a pulse.(P-1,2)
3-2.26 Demonstrate the techniques for assessing the patient for external bleeding.(P-1,2)
3-2.27 Demonstrate the techniques for assessing the patient's skin color, temperature, condition and capillary refill (infants and children only).(P-1,2)
3-2.28 Demonstrate the ability to prioritize patients.(P-1,2)

PREPARATION

Motivation: The EMT-Basic will encounter patients who require emergency medical care. It is important for the EMT-Basic to identify those patients who require rapid assessment critical interventions, and immediate transport.

Following the initial assessment, the EMT-B will use information obtained during this phase with the appropriate history and physical examination.

Prerequisites: BLS, Preparatory, and Airway.

MATERIALS

AV Equipment: Utilize various audio-visual materials relating to patient assessment. The continuous design and development of new audio-visual materials relating to EMS requires careful review to determine which best meet the needs of the program. Materials should be edited to assure the objectives of the curriculum are met.

EMS Equipment: Exam gloves, airway management equipment.

PERSONNEL

Primary Instructor: One EMT-Basic instructor knowledgeable in patient assessment.

Assistant Instructor: The instructor-to-student ratio should be 1:6 for psychomotor skill practice. Individuals used as assistant instructors should be knowledgeable about patient assessment.

Recommended Minimum Time to Complete: One hour

PRESENTATION

Declarative (What)

I. General Impression of the Patient
   A. Definition
      1. The general impression is formed to determine priority of care and is based on the EMT-Basic's immediate assessment of the environment and the patient's chief complaint.
      2. Determine if ill, i.e., medical or injured (trauma). If injured, identify mechanism of injury.
      3. Age

4. Sex
5. Race

B. Assess patient and determine if the patient has a life threatening condition.
1. If a life threatening condition is found, treat immediately.
2. Assess nature of illness or mechanism of injury.

II. Assess Patient's Mental Status. Maintain Spinal Immobilization if Needed.
A. Begin by speaking to the patient. State name, tell the patient that you are an emergency medical technician, and explain that you are here to help.
B. Levels of mental status
1. Alert
2. Responds to Verbal stimuli.
3. Responds to Painful stimuli.
4. Unresponsive - no gag or cough

III. Assess the Patient's Airway Status.
A. Responsive patient - Is the patient talking or crying?
1. If yes, assess for adequacy of breathing.
2. If no, open airway.
B. Unresponsive patient - Is the airway open?
1. Open the airway. Positioning is patient, age, and size specific.
a. For medical patients, perform the head-tilt chin-lift.
(1) Clear
(2) Not clear - Clear the airway.
b. For trauma patients or those with unknown nature of illness, the cervical spine should be stabilized/immobilized and the jaw thrust maneuver performed.
(1) Clear
(2) Not clear - Clear the airway.

IV. Assess the Patient's Breathing.
A. If breathing is adequate and the patient is responsive, oxygen may be indicated.
B. All responsive patients breathing <24 breaths per minute or <8 breaths per minute should receive high flow oxygen (defined as a 15 LPM nonrebreather mask).
C. If the patient is unresponsive and the breathing is adequate, open and maintain the airway and provide high concentration oxygen.
D. If the breathing is inadequate, open and maintain the airway, assist the patient's breathing and utilize ventilatory adjuncts. In all cases oxygen should be used.

E. If the patient is not breathing, open and maintain the airway and ventilate using ventilatory adjuncts. In all cases oxygen should be used.

V. Assess the Patient's Circulation.
  A. Assess the patient's pulse.
    1. The circulation is assessed by feeling for a radial pulse.
      a. In a patient one year old or less, palpate a brachial pulse.
      b. If no radial pulse is felt, palpate carotid pulse.
        (1) If pulseless, medical patient >12 years old, start CPR and apply automated external defibrillator (AED).
        (2) Medical patient < 12 years old, start CPR.
        (3) Trauma patient, start CPR.
  B. Assess if major bleeding is present. If bleeding is present, control bleeding.
  C. Assess the patient's perfusion by evaluating skin color and temperature.
    1. The patient's skin color is assessed by looking at the nail beds, lips and eyes.
      a. Normal - pink
      b. Abnormal conditions
        (1) Pale
        (2) Cyanotic or blue-gray
        (3) Flushed or red
        (4) Jaundice or yellow
    2. Assess the patient's skin temperature by feeling the skin.
      a. Normal - warm
      b. Abnormal skin temperatures
        (1) Hot
        (2) Cool
        (3) Cold
        (4) Clammy - cool & moist
    3. Assess the patient's skin condition. This is an assessment of the amount of moisture on the skin.
      a. Normal - dry
      b. Abnormal - moist or wet
    4. Assess capillary refill in infant and child patients.
      a. Normal capillary refill is less than two seconds.
      b. Abnormal capillary refill is greater than two seconds.

VI. Identify Priority Patients.
  A. Consider:

1. Poor general impression
2. Unresponsive patients - no gag or cough
3. Responsive, not following commands
4. Difficulty breathing
5. Shock (hypoperfusion)
6. Complicated childbirth
7. Chest pain with BP <100 systolic
8. Uncontrolled bleeding
9. Severe pain anywhere

B. Expedite transport of the patient. Consider ALS back up.

VII. Proceed to the appropriate focused history and physical examination.

APPLICATION

Procedural (How)

1. Review airway patency, breathing and oxygen delivery.
2. Review methods of assessing mental status.
3. Demonstrate obtaining radial, carotid, and brachial pulses.
4. Show assessment and control of major external bleeding.
5. Demonstrate assessment of skin color, temperature and capillary refill.

Contextual (When, Where, Why)

Perform initial assessment on all patients after assuring scene and personal safety. If the scene is safe and the environment permits, perform the assessment prior to moving the patient. The initial assessment is a rapid means of assessing patient condition and priorities of care.

STUDENT ACTIVITIES

Auditory (Hear)

1. Students should hear recordings of various patient situations to listen for clues concerning the general impression.
2. Students should hear normal and abnormal airway noises.
3. Students should hear breathing.

Visual (See)

1. Students should see audio-visual aids or materials of various patients situations.
2. Students should see breathing while an initial assessment is being performed.

3. Students should see appropriate landmarks for assessing pulses.
4. Students should see examples of major bleeding.
5. Students should see normal skin color and condition.
6. Students should see how to control major bleeding.
7. Students should see the flow chart from Appendix I.

Kinesthetic (Do)

1. Students should practice establishing mental status on programmed patients (fellow students) with various altered mental statuses.
2. Students should practice airway opening techniques on manikins and each other.
3. Students should practice assessing breathing.
4. Students should practice assessing pulses.
5. Students should practice assessing for major bleeding.
6. Students should practice assessing skin color, temperature and condition.
7. Students should practice assessing capillary refill.
8. Students should practice recording assessment findings.
9. Students should use the flow chart from Appendix I.

INSTRUCTOR ACTIVITIES

Supervise student practice.
Reinforce student progress in cognitive, affective, and psychomotor domains.
Redirect students having difficulty with content (complete remediation forms).

EVALUATION

Written: Develop evaluation instruments, e.g., quizzes, verbal reviews, handouts, to determine if the students have met the cognitive and affective objectives of this lesson.

Practical: Evaluate the actions of the EMT-Basic students during role play, practice or other skill stations to determine their compliance with the cognitive and affective objectives and their mastery of the psychomotor objectives of this lesson.

REMEDIATION

Identify students or groups of students who are having difficulty with this subject content. Complete remediation sheet from the instructor's course guide.

ENRICHMENT

What is unique in the local area concerning this topic? Complete enrichment sheets from the instructor's course guide and attach with lesson plan.

MODULE 3

Patient Assessment

Lesson 3-3

Focused History and Physical Exam: Trauma

OBJECTIVES

OBJECTIVES LEGEND

C = Cognitive P = Psychomotor A = Affective
1 = Knowledge level
2 = Application level
3 = Problem-solving level

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

3-3.1 Discuss the reasons for reconsideration concerning the mechanism of injury.(C-1)

3-3.2 State the reasons for performing a rapid trauma assessment.(C-1)

3-3.3 Recite examples and explain why patients should receive a rapid trauma assessment.(C-1)

3-3.4 Describe the areas included in the rapid trauma assessment and discuss what should be evaluated.(C-1)

3-3.5 Differentiate when the rapid assessment may be altered in order to provide patient care. (C-3)

3-3.6 Discuss the reason for performing a focused history and physical exam.(C-1)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

3-3.7 Recognize and respect the feelings that patients might experience during assessment.(A-1)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

3-3.8 Demonstrate the rapid trauma assessment that should be used to assess a patient based on mechanism of injury.(P-1,2)

PREPARATION

Motivation: With trauma patients, it is important for the EMT-Basic student to separate those patients who require rapid assessment and critical interventions, from those patients who can be managed using components of the focused assessment.

Prerequisite Skills: BLS, Preparatory, and Airway.

MATERIALS

AV Equipment: Utilize various audio-visual materials relating to the history and physical exam of trauma patients. The continuous design and development of new audio-visual materials relating to EMS requires careful review to determine which best meet the needs of the program. Materials should be edited to assure the objectives of the curriculum are met.

EMS Equipment: Exam gloves, stethoscope (dual and single head)(1:6), blood pressure cuffs (adult, child and infant)(1:6), penlight (1:6).

PERSONNEL

Primary Instructor: One EMT-Basic instructor, knowledgeable in patient assessment.

Assistant Instructor: The instructor-to-student ratio should be 1:6 for psychomotor skill practice. Individuals used as assistant instructors should be knowledgeable in assessing the history and physical exam of the trauma patient.

Recommended Minimum Time to Complete: Four hours

PRESENTATION

Declarative (What)

I. Re-consider Mechanism of Injury
   A. Significant mechanism of injury
      1. Ejection from vehicle
      2. Death in same passenger compartment
      3. Falls > 20 feet
      4. Roll-over of vehicle
      5. High-speed vehicle collision
      6. Vehicle-pedestrian collision
      7. Motorcycle crash
      8. Unresponsive or altered mental status
      9. Penetrations of the head, chest, or abdomen
      10. Hidden injuries
         a. Seat belts
            (1) If buckled, may have produced injuries.
            (2) If patient had seat belt on, it does not mean they do not have injuries.
         b. Airbags
            (1) May not be effective without seat belt.
            (2) Patient can hit wheel after deflation.
            (3) Lift the deployed airbag and look at the steering wheel for deformation.
               (a) "Lift and look" under the bag after the patient has been removed.
               (b) Any visible deformation of the steering wheel should be regarded as an indicator of potentially serious internal injury, and appropriate action should be taken.
   B. Infant and child considerations
      1. Falls >10 feet
      2. Bicycle collision
      3. Vehicle in medium speed collision
II. Perform rapid trauma assessment on patients with significant mechanism of injury to determine life threatening injuries. In the responsive patient, symptoms should be sought before and during the trauma assessment.
   A. Continue spinal stabilization.
   B. Consider ALS request.

C. Reconsider transport decision.
D. Assess mental status.
E. As you inspect and palpate, look and feel for the following examples of injuries or signs of injury:
   1. Deformities
   2. Contusions
   3. Abrasions
   4. Punctures/penetrations
   5. Burns
   6. Tenderness
   7. Lacerations
   8. Swelling
F. Assess the head, inspect and palpate for injuries or signs of injury.
   1. Deformities
   2. Contusions
   3. Abrasions
   4. Punctures/penetrations
   5. Burns
   6. Tenderness
   7. Lacerations
   8. Swelling
   9. Crepitation
G. Assess the neck, inspect and palpate for injuries or signs of injury.
   1. Deformities
   2. Contusions
   3. Abrasions
   4. Punctures/penetrations
   5. Burns
   6. Tenderness
   7. Lacerations
   8. Swelling
   9. Jugular vein distension (JVD)
   10. Crepitation
H. Apply cervical spinal immobilization collar (CSIC). May use information from the head injury lesson at this time.
I. Assess the chest, inspect and palpate for:
   1. Injuries or signs of injury
   2. Deformities
   3. Contusions
   4. Abrasions
   5. Punctures/penetrations

6. Burns
7. Tenderness
8. Lacerations
9. Swelling
10. Paradoxical motion
11. Crepitation
12. Breath sounds in the apices, mid-clavicular line, bilaterally and at the bases, mid-axillary line, bilaterally
    a. Present
    b. Absent
    c. Equal

J. Assess the abdomen, inspect and palpate for injuries or signs of injury.
1. Deformities
2. Contusions
3. Abrasions
4. Punctures/penetrations
5. Burns
6. Tenderness
7. Lacerations
8. Swelling
9. Firm
10. Soft
11. Distended

K. Assess the pelvis, inspect and palpate for injuries or signs of injury.
1. Deformities
2. Contusions
3. Abrasions
4. Punctures/penetrations
5. Burns
6. Tenderness
7. Lacerations
8. Swelling
9. If no pain is noted, gently compress the pelvis to determine tenderness or motion.

L. Assess all four extremities, inspect and palpate for injuries or signs of injury.
1. Deformities
2. Contusions
3. Abrasions
4. Punctures/penetrations

5. Burns
6. Tenderness
7. Lacerations
8. Swelling
9. Distal pulse
10. Sensation
11. Motor function

M. Roll patient with spinal precautions and assess posterior body, inspect and palpate, examining for injuries or signs of injury.
N. Assess baseline vital signs.
O. Assess SAMPLE history.

III. For patients with no significant mechanism of injury, e.g., cut finger
A. Perform focused history and physical exam of injuries based on the components of the rapid assessment. The focused assessment is performed on the specific injury site.
B. Assess baseline vital signs.
C. Assess SAMPLE history.

APPLICATION

Procedural (How)

The assessment is completed by visually inspecting, physically palpating and auscultating, and verbally communicating with the patient and family. The assessment is an input/output process, where the assessment findings are the input and the treatment is the output.

1. Review of scene size-up.
2. Review of the initial assessment.
3. Students should be shown audio-visual aids or materials of various trauma scenes to evaluate the mechanism of injury.
4. Demonstrate a rapid patient assessment.

Contextual (When, Where, Why)

The history and physical exam are performed following the initial assessment and correction of immediate threats to life. During this process, obtain additional information regarding the patient's condition.

This assessment may be performed at the same location as the initial assessment, unless the scene or patient's condition requires movement.

This assessment is the second hands-on approach to gain information to continue providing patient care, managing life threats, and making a transport decision.

STUDENT ACTIVITIES

Auditory (Hear)

1. Students should hear information input from a simulated patient or others regarding signs and symptoms for patients that are unresponsive.
2. Students should hear the presence of breath sounds on fellow students.

Visual (See)

1. Students should see audio-visual aids or materials of various injuries.
2. Students should see the inspection and palpation of programmed patients for various injuries and patterns of injury.
3. Students should see landmarks for auscultation of breath sounds.
4. Students should see landmarks for palpation and inspection.
5. Students should see the sizing and application of cervical spine immobilization devices.
6. Students should see how the pupils of the eye normally react to light.
7. Students should see the flow chart from Appendix I.

Kinesthetic (Do)

1. Students should practice performing the skills of inspection, palpation, and auscultation.
2. Students should practice measuring and applying cervical spine immobilization devices.
3. Students should practice recording assessment findings for a trauma patient.
4. Students should use the flow chart from Appendix I.
5. The student should practice doing the focused history and physical exam learned in this lesson.

INSTRUCTOR ACTIVITIES

Supervise student practice.
Reinforce student progress in cognitive, affective, and psychomotor domains.
Redirect students having difficulty with content (complete remediation forms).

EVALUATION

Written: Develop evaluation instruments, e.g., quizzes, verbal reviews, and handouts, to determine if the students have met the cognitive and affective objectives of this lesson.

Practical: Evaluate the actions of the EMT-Basic students during role play, practice or other skill stations to determine their compliance with the cognitive and affective objectives and their mastery of the psychomotor objectives of this lesson.

REMEDIATION

Identify students or groups of students who are having difficulty with this subject content. Complete remediation sheet from the instructor's course guide.

ENRICHMENT

What is unique in the local area concerning this topic? Complete enrichment sheets from the instructor's course guide and attach with lesson plan.

MODULE 3

Patient Assessment

Lesson 3-5

Detailed Physical Exam

OBJECTIVES

OBJECTIVES LEGEND

C = Cognitive P = Psychomotor A = Affective
1 = Knowledge level
2 = Application level
3 = Problem-solving level

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

3-5.1 Discuss the components of the detailed physical exam.(C-1)

3-5.2 State the areas of the body that are evaluated during the detailed physical exam.(C-1)

3-5.3 Explain what additional care should be provided while performing the detailed physical exam.(C-1)

3-5.4 Distinguish between the detailed physical exam that is performed on a trauma patient and that of the medical patient.(C-3)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

3-5.5 Explain the rationale for the feelings that these patients might be experiencing.(A-3)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

3-5.6 Demonstrate the skills involved in performing the detailed physical exam.(P-1,2)

PREPARATION

Motivation: The entire basis for the EMT-Basic's emergency medical care is the assessment findings. In the detailed physical exam, the EMT-Basic will continue to assess the patient, allowing for continued care.

Prerequisites: BLS, Preparatory and Airway.

MATERIALS

AV Equipment: Utilize various audio-visual materials relating to the detailed physical exam. The continuous design and development of new audio-visual materials relating to EMS requires careful review to determine which best meet the needs of the program. Materials should be edited to assure the objectives of the curriculum are met.

EMS Equipment: Exam gloves, stethoscope (dual and single head)(1:6), blood pressure cuffs (adult, child and infant)(1:6), penlight (1:6).

PERSONNEL

Primary Instructor: One EMT-Basic instructor with knowledge in patient assessment.

Assistant Instructor: The instructor-to-student ratio should be 1:6 for psychomotor skill practice. Individuals used as assistant instructors should be knowledgeable in assessing a detailed physical exam.

Recommended Minimum Time to Complete: One hour

PRESENTATION

Declarative (What)

I. Detailed Physical Exam
   A. Patient and injury specific, e.g., cut finger would not require the detailed physical exam.
   B. Perform a detailed physical examination on the patient to gather additional information.
      1. As you inspect and palpate, look and/or feel for the following examples of injuries or signs of injury:
         a. Deformities
         b. Contusions
         c. Abrasions
         d. Punctures/penetrations
         e. Burns
         f. Tenderness
         g. Lacerations
         h. Swelling
      2. Assess the head, inspect and palpate for injuries or signs of injury.
         a. Deformities
         b. Contusions
         c. Abrasions
         d. Punctures/penetrations
         e. Burns
         f. Tenderness
         g. Lacerations
         h. Swelling
      3. Assess the face, inspect and palpate for injuries or signs of injury.
         a. Deformities
         b. Contusions
         c. Abrasions
         d. Punctures/penetrations
         e. Burns
         f. Tenderness
         g. Lacerations
         h. Swelling

4. Assess the ears, inspect and palpate for injuries or signs of injury .
   a. Deformities
   b. Contusions
   c. Abrasions
   d. Punctures/penetrations
   e. Burns
   f. Tenderness
   g. Lacerations
   h. Swelling
   i. Drainage
5. Assess the eyes, inspect for injuries or signs of injury.
   a. Deformities
   b. Contusions
   c. Abrasions
   d. Punctures/penetrations
   e. Burns
   f. Tenderness
   g. Lacerations
   h. Swelling
   i. Discoloration
   j. Unequal pupils
   k. Foreign bodies
   l. Blood in anterior chamber
6. Assess the nose, inspect and palpate for injuries or signs of injury.
   a. Deformities
   b. Contusions
   c. Abrasions
   d. Punctures/penetrations
   e. Burns
   f. Tenderness
   g. Lacerations
   h. Swelling
   i. Drainage
   j. Bleeding
7. Assess the mouth, inspect for injuries or signs of injury.
   a. Deformities
   b. Contusions
   c. Abrasions
   d. Punctures/penetrations

e. Burns
f. Tenderness
g. Lacerations
h. Swelling
i. Teeth
j. Obstructions
k. Swollen or lacerated tongue
l. Odors
m. Discoloration

8. Assess the neck, inspect and palpate for injuries or signs of injury.
   a. Deformities
   b. Contusions
   c. Abrasions
   d. Punctures/penetrations
   e. Burns
   f. Tenderness
   g. Lacerations
   h. Swelling
   i. Jugular vein distension
   j. Crepitance
9. Assess the chest, inspect and palpate for injuries or signs of injury.
   a. Deformities
   b. Contusions
   c. Abrasions
   d. Punctures/penetrations
   e. Burns
   f. Tenderness
   g. Lacerations
   h. Swelling
   i. Crepitance
   j. Paradoxical motion
   k. Breath sounds in the apices, mid-clavicular line, bilaterally and at the bases, mid-axillary line, bilaterally.
      (1) Present
      (2) Absent
      (3) Equal
10. Assess the abdomen, inspect and palpate for injuries or signs of injury.
   a. Deformities

b. Contusions
c. Abrasions
d. Punctures/penetrations
e. Burns
f. Tenderness
g. Lacerations
h. Swelling
i. Firm
j. Soft
k. Distended

11. Assess the pelvis, inspect and palpate for injuries or signs of injury.
    a. Deformities
    b. Contusions
    c. Abrasions
    d. Punctures/penetrations
    e. Burns
    f. Tenderness
    g. Lacerations
    h. Swelling
    i. If the patient does not complain of pain or is unresponsive, gently flex and compress the pelvis to determine stability.
12. Assess all four extremities, inspect and palpate for injuries or signs of injury.
    a. Deformities
    b. Contusions
    c. Abrasions
    d. Punctures/penetrations
    e. Burns
    f. Tenderness
    g. Lacerations
    h. Swelling
    i. Distal pulses
    j. Sensation
    k. Motor function
13. Roll with spinal precautions and assess posterior aspect of body, inspect and palpate for injuries or signs of injury.
    a. Deformities
    b. Contusions
    c. Abrasions

d. Punctures/penetrations
e. Burns
f. Tenderness
g. Lacerations
h. Swelling

II. Assess Baseline Vital Signs.

APPLICATION

Procedural (How)

The physical assessment is completed by visual inspection and palpation. The assessment is an input/output process, where the assessment findings are the input and the treatment is the output.

Contextual (When, Where, Why)

The detailed physical exam is performed following the focused history and physical exam. It will be performed after all critical interventions have been completed. It is situation and time dependent. Depending upon the severity of the patient's injury or illness, this assessment may not be completed. During this process, additional information regarding the patient's condition is obtained.

Typically this assessment will be performed while en route to the receiving facility.

STUDENT ACTIVITIES

Auditory (Hear)

1. Students should hear information (clues) from the responsive or altered mental status patient regarding symptoms.

Visual (See)

1. Students should see audio-visual aids or materials of various injuries.
2. Students should see the inspection and palpation of programmed patients for various injuries and illnesses.
3. Students should see landmarks for auscultation of breath sounds.
4. Students should see landmarks for palpation and inspection.
5. Students should see the flow chart from Appendix I.

Kinesthetic (Do)

1. Students should practice performing the skills of inspection, palpation, and auscultation of the detailed physical exam.
2. Students should use the flow chart from Appendix I.

INSTRUCTOR ACTIVITIES

Supervise student practice.
Reinforce student progress in cognitive, affective, and psychomotor domains.
Redirect students having difficulty with content (complete remediation forms).

EVALUATION

Written: Develop evaluation instruments, e.g., quizzes, verbal reviews, and handouts, to determine if the students have met the cognitive and affective objectives of this lesson.

Practical: Evaluate the actions of the EMT-Basic students during role play, practice or other skill stations to determine their compliance with the cognitive and affective objectives and their mastery of the psychomotor objectives of this lesson.

REMEDIATION

Identify students or groups of students who are having difficulty with this subject content. Complete remediation sheet from the instructor's course guide.

ENRICHMENT

What is unique in the local area concerning this topic? Complete enrichment sheets from the instructor's course guide and attach with lesson plan.

MODULE 3

Patient Assessment

Lesson 3-7

Communications

OBJECTIVES

OBJECTIVES LEGEND

C = Cognitive P = Psychomotor A = Affective
1 = Knowledge level
2 = Application level
3 = Problem-solving level

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

3-7.1 List the proper methods of initiating and terminating a radio call.(C-1)

3-7.2 State the proper sequence for delivery of patient information.(C-1)

3-7.3 Explain the importance of effective communication of patient information in the verbal report.(C-1)

3-7.4 Identify the essential components of the verbal report.(C-1)

3-7.5 Describe the attributes for increasing effectiveness and efficiency of verbal communications.(C-1)

3-7.6 State legal aspects to consider in verbal communication.(C-1)

3-7.7 Discuss the communication skills that should be used to interact with the patient.(C-1)

3-7.8 Discuss the communication skills that should be used to interact with the family, bystanders, individuals from other agencies while providing patient care and the difference between skills used to interact with the patient and those used to interact with others.(C-1)

3-7.9 List the correct radio procedures in the following phases of a typical call:(C-1)

- To the scene.
- At the scene.
- To the facility.
- At the facility.
- To the station.
- At the station.

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

3-7.10 Explain the rationale for providing efficient and effective radio communications and patient reports.(A-3)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

3-7.11 Perform a simulated, organized, concise radio transmission.(P-2)

3-7.12 Perform an organized, concise patient report that would be given to the staff at a receiving facility.(P-2)

3-7.13 Perform a brief, organized report that would be given to an ALS provider arriving at an incident scene at which the EMT-Basic was already providing care.(P-2)

PREPARATION

Motivation: The best prehospital patient care may come to an end at the door of the Emergency Department (ED) if a patient's condition is not described well enough for the ED staff to prepare.

Communication is an essential component of prehospital care. Both verbal and written communications will be used during every response. Patient care not only includes assessment and treatment, but the ability to effectively and efficiently communicate findings to other health care providers.

Prerequisites: BLS, Preparatory and Airway.

MATERIALS

AV Equipment: Utilize various audio-visual materials relating to communications. The continuous design and development of new audio-visual materials relating to EMS requires careful review to determine which best meet the needs of the program. Materials should be edited to assure the objectives of the curriculum are met.

EMS Equipment: None

PERSONNEL

Primary Instructor: One EMT-Basic instructor knowledgeable in this area.

Assistant Instructor: The instructor-to-student ratio should be 1:6 for psychomotor skill practice. Individuals used as assistant instructors should be knowledgeable in communications.

Recommended Minimum Time to Complete: One hour

PRESENTATION

Declarative (What)

I. Communication
   A. Communication system
      1. System components
         a. Base station - a radio which is located at a stationary site such as a hospital, mountain top, or public safety agency.
         b. Mobile two-way radios (transmitter/receivers)
            (1) Implies a vehicular mounted device.
            (2) Mobile transmitters usually transmit at lower power than base stations (typically 20 - 50 watts).
            (3) Typical transmission range is 10 - 15 miles over average terrain.
         c. Portable radios (transmitter/receivers)
            (1) Implies a handheld device.
            (2) Typically have power output of 1 - 5 watts, limiting their range.
         d. Repeater/base station - receives a transmission from a low-power portable or mobile radio on one frequency and retransmits at a higher power on another frequency.
         e. Digital radio equipment
         f. Cellular telephones
      2. Radio communications
         a. Radio frequencies - assigned and licensed by the Federal Communication Commission (FCC).

b. Response to the scene
   (1) The dispatcher needs to be notified that the call was received.
   (2) Dispatch needs to know that the unit is en route.
   (3) Other agencies should be notified as appropriate, e.g., local hospital.

c. Arrival at the scene - the dispatcher must be notified.

3. Communication with medical direction
   a. In some systems, medical direction is at the receiving facility. In others, medical direction is at a separate site.
   b. In either case, EMT-Basics may need to contact medical direction for consultation and to get orders for administration of medications. Radio transmissions need to be organized, concise and pertinent.
   c. Since the physician will determine whether to order medications and procedures based on the information given by the EMT-Basic, this information must be accurate.
   d. After receiving an order for a medication or procedure (or denial of such a request), repeat the order back word for word.
   e. Orders that are unclear or appear to be inappropriate should be questioned.
   f. Communication with receiving facilities
   g. EMT-Basics provide information that allows hospitals to prepare for a patient's arrival by having the right room, equipment and personnel prepared.
   h. Patient reporting concepts
      (1) When speaking on the radio, keep these principles in mind:
         (a) Radio is on and volume is properly adjusted.
         (b) Listen to the frequency and ensure it is clear before beginning a transmission.
         (c) Press the "press to talk" (PTT) button on the radio and wait for one second before speaking.
         (d) Speak with lips about 2 to 3 inches from the microphone.
         (e) Address the unit being called, then give the name of the unit (and number if appropriate) where the transmission is originating from.

(f) The unit being called will signal that the transmission should start by saying "go ahead" or some other term standard for that area. A response of "stand by" means wait until further notice.

(g) Speak clearly and slowly, in a monotone voice.

(h) Keep transmissions brief. If, on occasion, a transmission takes longer than 30 seconds, stop at that point and pause for a few seconds so that emergency traffic can use the frequency if necessary.

(i) Use clear text.

(j) Avoid codes.

(k) Avoid meaningless phrases like "Be advised."

(l) Courtesy is assumed, so there is no need to say "please," "thank you" and "you're welcome."

(m) When transmitting a number that might be confused (e.g., a number in the teens), give the number, then give the individual digits.

(n) The airwaves are public and scanners are popular. EMS transmissions may be overheard by more than just the EMS community. Do not give a patient's name over the air.

(o) For the same reason, be careful to remain objective and impartial in describing patients. An EMT-Basic may be sued for slander if he injures someone's reputation in this way.

(p) An EMT-Basic rarely acts alone: Use "we" instead of "I."

(q) Do not use profanity on the air. The FCC takes a dim view of such language and may impose substantial fines.

(r) Avoid words that are difficult to hear like "yes" and "no." Use "affirmative" and "negative."

(s) Use the standard format for transmission of information.
(t) When the transmission is finished, indicate this by saying "over." Get confirmation that the message was received.
(u) Avoid codes, especially those that are not standardized.
(v) Avoid offering a diagnosis of the patient's problem.
(w) Use EMS frequencies only for EMS communication.
(x) Reduce background noise as much as possible by closing the window.

(2) Notify the dispatcher when the unit leaves the scene.

(3) When communicating with medical direction or the receiving facility, a verbal report should be given. The essential elements of such a report, in the order they should be given, are:
(a) Identify unit and level of provider (who and what)
(b) Estimated time of arrival
(c) Patient's age and sex
(d) Chief complaint
(e) Brief, pertinent history of the present illness
(f) Major past illnesses
(g) Mental status
(h) Baseline vital signs
(i) Pertinent findings of the physical exam
(j) Emergency medical care given
(k) Response to emergency medical care

(4) After giving this information, the EMT-Basic will continue to assess the patient. Additional vital signs may be taken and new information may become available, particularly on long transports. In some systems, this information should be relayed to the hospital (see local protocol). Information that must be transmitted includes deterioration in the patient's condition.

(5) Arrival at the hospital
(a) The dispatcher must be notified.

(b) In some systems, the hospital should also be notified.

(6) Leaving the hospital for the station - the dispatcher should be notified.

(7) Arrival at the station - the dispatcher should be notified.

4. System maintenance
   a. Communication equipment needs to be checked periodically by a qualified technician, e.g., to ensure that a radio is not drifting from its assigned frequency.
   b. As technology changes, new equipment becomes available that may have a role in EMS systems, e.g., cellular phones.
   c. Since EMT-Basics may need to be able to consult on-line medical direction, an EMS system must provide a back-up in case the usual procedures do not work.

B. Verbal communication
   1. After arrival at the hospital, give a verbal report to the staff.
      a. Introduce the patient by name (if known).
      b. Summarize the information given over the radio:
         (1) Chief complaint
         (2) History that was not given previously
         (3) Additional treatment given en route
         (4) Additional vital signs taken en route
      c. Give additional information that was collected but not transmitted.

C. Written communication - this is covered in the lesson on documentation.

D. Interpersonal communication
   1. Make and keep eye contact with the patient.
   2. When practical, position yourself at a level lower than the patient.
   3. Be honest with the patient.
   4. Use language the patient can understand.
   5. Be aware of your own body language.
   6. Speak clearly, slowly and distinctly.
   7. Use the patient's proper name, either first or last, depending on the circumstances. Ask the patient what he wishes to be called.
   8. If a patient has difficulty hearing, speak clearly with lips visible.

9. Allow the patient enough time to answer a question before asking the next one.
10. Act and speak in a calm, confident manner.

E. Communication with hearing impaired, non-English speaking populations, use of interpreters, etc.

F. Communication with elderly
   1. Potential for visual deficit
   2. Potential for auditory deficit

APPLICATION

Procedural (How)

1. Show how to initiate and terminate a radio call.
2. Demonstrate use of the radio in the different phases of a typical call.
   - To the scene.
   - At the scene.
   - To the facility.
   - At the facility.
   - To the station.
   - At the station.
3. Demonstrate the proper sequence of patient information.
4. Demonstrate how to communicate with a patient.
5. Demonstrate how to communicate with a patient's family.
6. Demonstrate how to communicate with bystanders.
7. Demonstrate how to communicate with individuals from other agencies while providing patient care.
8. Demonstrate a brief, organized report that would be given to an ALS provider arriving at an incident scene at which the EMT-Basic was already providing care.
9. Demonstrate a simulated, organized, concise radio transmission.

Contextual (When, Where, Why)

Communications occur from the pre-dispatch phase, throughout the call, and well after the completion of the transport. Various individuals will be involved in the verbal communication process and vital information will be discussed. The EMT-Basic must have excellent verbal and written communication skills to assure accurate information is delivered to the appropriate individuals. The continuum of patient care is based upon effective and efficient communication skills.

STUDENT ACTIVITIES

Auditory (Hear)

1. The student should hear both sides of a radio transmission during the phases of a typical call:
   - To the scene.
   - At the scene.
   - To the facility.
   - At the facility.
   - To the station.
   - At the station.
2. The student should hear initiation and termination of a radio call.
3. The student should hear patient information delivered in the proper sequence.
4. The student should hear communication with a simulated patient.
5. The student should hear communication with the family of a simulated patient.
6. The student should hear communication with simulated bystanders.
7. The student should hear communication with individuals from other agencies at a call.
8. The student should hear a brief, organized report that would be given to an ALS provider arriving at an incident scene at which the EMT-Basic was already providing care.

Visual (See)

1. The student should see examples of portable, mobile and base station radio equipment.
2. The student should see the communication skills used to interact with the family.
3. The student should see the communication skills used to interact with bystanders.
4. The student should see the communication skills used to interact with individuals from other agencies while providing patient care.
5. The student should see the components of the minimum data set.

Kinesthetic (Do)

1. The student should practice radio use procedures in the following phases of a typical call:
   - To the scene.
   - At the scene.
   - To the facility.
   - At the facility.

- To the station.
- At the station.

2. The student should practice the proper methods of initiating and terminating a radio call.
3. The student should practice the proper sequence of delivery of patient information.
4. The student should practice the communication skills used to interact with the patient.
5. The student should practice the communication skills used to interact with the family.
6. The student should practice the communication skills used to interact with bystanders.
7. The student should practice the communication skills used to interact with individuals from other agencies while providing patient care.
8. The student should practice performing an organized, concise patient report that would be given to the medical staff at a receiving facility.
9. The student should practice performing a brief, organized report that would be given to an ALS provider arriving at an incident scene at which the EMT-Basic was already providing care.
10. The student should practice performing a simulated, organized, concise radio transmission.

INSTRUCTOR ACTIVITIES

Supervise student practice.
Reinforce student progress in cognitive, affective, and psychomotor domains.
Redirect students having difficulty with content (complete remediation forms).

EVALUATION

Written: Develop evaluation instruments, e.g., quizzes, verbal reviews, and handouts, to determine if the students have met the cognitive and affective objectives of this lesson.

Practical: Evaluate the actions of the EMT-Basic students during role play, practice or other skill stations to determine their compliance with the cognitive and affective objectives and their mastery of the psychomotor objectives of this lesson.

REMEDIATION

Identify students or groups of students who are having difficulty with this subject content. Complete remediation sheet from the instructor's course guide.

ENRICHMENT

What is unique in the local area concerning this topic? Complete enrichment sheets from the instructor's course guide and attach with lesson plan.

MODULE 4

Medical/Behavioral and Obstetrics/Gynecology

Lesson 4-6

Poisoning/ Overdose

OBJECTIVES

OBJECTIVES LEGEND

C = Cognitive P = Psychomotor A = Affective
1 = Knowledge level
2 = Application level
3 = Problem-solving level

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

4-6.1 List various ways that poisons enter the body.(C-1)
4-6.2 List signs/symptoms associated with poisoning.(C-1)
4-6.3 Discuss the emergency medical care for the patient with possible overdose.(C-1)
4-6.4 Describe the steps in the emergency medical care for the patient with suspected poisoning.(C-1)
4-6.5 Establish the relationship between the patient suffering from poisoning or overdose and airway management.(C-3)
4-6.6 State the generic and trade names, indications, contraindications, medication form, dose, administration, actions, side effects and re-assessment strategies for activated charcoal.(C-1)
4-6.7 Recognize the need for medical direction in caring for the patient with poisoning or overdose.(C-3)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

4-6.8 Explain the rationale for administering activated charcoal.(A-3)
4-6.9 Explain the rationale for contacting medical direction early in the prehospital management of the poisoning or overdose patient.(A-3)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

4-6.10 Demonstrate the steps in the emergency medical care for the patient with possible overdose.(P-1,2)

4-6.11 Demonstrate the steps in the emergency medical care for the patient with suspected poisoning.(P-1,2)
4-6.12 Perform the necessary steps required to provide a patient with activated charcoal.(P-2)
4-6.13 Demonstrate the assessment and documentation of patient response.(P-1,2)
4-6.14 Demonstrate proper disposal of the equipment for the administration of activated charcoal.(P-1,2)
4-6.15 Demonstrate completing a prehospital care report for patients with a poisoning/overdose emergency.(P-1,2)

PREPARATION

Motivation: Thousands of children are poisoned every year as they explore their environments. Many adults also overdose on medication, either accidentally or deliberately. With early prehospital management, the vast majority of these patients have better outcomes.

Prerequisites: BLS, Preparatory, Airway and Patient Assessment.

MATERIALS

AV Equipment: Utilize various audio-visual materials relating to poisoning/overdose emergencies. The continuous design and development of new audio-visual materials relating to EMS requires careful review to determine which best meet the needs of the program. Materials should be edited to assure meeting the objectives of the curriculum.

EMS Equipment: Activated charcoal, suction equipment.

PERSONNEL

Primary Instructor: One EMT-Basic instructor knowledgeable in this area.

Assistant Instructor: None required.

Recommended Minimum Time to Complete: Two hours

PRESENTATION

Declarative (What)

I. Emergency Medical Care of Poisoning/Overdose
   A. Important questions to consider asking patient
      1. What substance
      2. When did you ingest/become exposed
      3. If an ingestion, how much did you ingest
      4. Over what time period
      5. Interventions
      6. How much do you weigh
   B. Ingested
      1. Signs and symptoms
         a. History of ingestion
         b. Nausea
         c. Vomiting
         d. Diarrhea
         e. Altered mental status
         f. Abdominal pain
         g. Chemical burns around the mouth
         h. Different breath odors
      2. Emergency medical care
         a. Remove pills, tablets or fragments with gloves from patient's mouth, as needed, without injuring oneself.
         b. Consult medical direction - activated charcoal.
         c. Bring all containers, bottles, labels, etc. of poison agents to receiving facility.
   C. Inhaled
      1. Signs and symptoms
         a. History of inhalation of toxic substance
         b. Difficulty breathing
         c. Chest pain
         d. Cough
         e. Hoarseness
         f. Dizziness
         g. Headache
         h. Confusion
         i. Seizures
         j. Altered mental status

2. Emergency medical care
   a. Have trained rescuers remove patient from poisonous environment.
   b. Give oxygen, if not already done in the initial assessment.
   c. Bring all containers, bottles, labels, etc. of poison agents to receiving facility.

D. Toxic injection
1. Signs and symptoms
   a. Weakness
   b. Dizziness
   c. Chills
   d. Fever
   e. Nausea
   f. Vomiting
2. Emergency medical care
   a. Airway and oxygen.
   b. Be alert for vomiting.
   c. Bring all containers, bottles, labels, etc. of poison agents to receiving facility.

E. Absorbed
1. Signs and symptoms
   a. History of exposure
   b. Liquid or powder on patient's skin
   c. Burns
   d. Itching
   e. Irritation
   f. Redness
2. Emergency medical care
   a. Skin - remove contaminated clothing while protecting oneself from contamination.
      (1) Powder - brush powder off patient, then continue as for other absorbed poisons.
      (2) Liquid - irrigate with clean water for at least 20 minutes (and continue en route to facility if possible).
   b. Eye - irrigate with clean water away from affected eye for at least 20 minutes and continue en route to facility if possible.

II. Relationship to Airway Management
A. Use information and skills learned in airway section of course to manage airway difficulties.

B. A patient's condition may deteriorate, so continue to assess patient for airway difficulties and manage as learned previously.

III. Medications

A. Activated charcoal

1. Medication name
   a. Generic - Activated charcoal
   b. Trade
      (1) SuperChar™
      (2) InstaChar™
      (3) Actidose™
      (4) LiquiChar™
      (5) Others
2. Indications - poisoning by mouth
3. Contraindications
   a. Altered mental status
   b. Ingestion of acids or alkalis
   c. Unable to swallow
4. Medication form
   a. Pre-mixed in water, frequently available in plastic bottle containing 12.5 grams activated charcoal.
   b. Powder - should be avoided in field.
5. Dosage
   a. Adults and children: 1 gram activated charcoal/kg of body weight.
   b. Usual adult dose: 25 - 50 grams
   c. Usual infant/child dose: 12.5 - 25 grams
6. Administration
   a. Obtain order from medical direction either on-line or off-line.
   b. Container must be shaken thoroughly.
   c. Since medication looks like mud, patient may need to be persuaded to drink it.
   d. A covered container and a straw may improve patient compliance since the patient cannot see the medication this way.
   e. If patient takes a long time to drink the medication, the charcoal will settle and will need to be shaken or stirred again.
   f. Record activity and time.
7. Actions

a. Binds to certain poisons and prevents them from being absorbed into the body.
b. Not all brands of activated charcoal are the same; some bind much more poison than others, so consult medical direction about the brand to use.

8. Side effects
   a. Black stools
   b. Some patients, particularly those who have ingested poisons that cause nausea, may vomit.
   c. If the patient vomits, the dose should be repeated once.
9. Re-assessment strategies - the EMT-Basic should be prepared for the patient to vomit or further deteriorate.

APPLICATION

Procedural (How)

1. Show the student examples of poisoning by ingestion.
2. Show the student examples of poisoning by inhalation.
3. Show the student examples of poisoning by injection.
4. Show the student examples of poisoning by absorption.
5. Show the student activated charcoal.
6. Show the student how to administer activated charcoal.
7. Show the student how to care for a patient with suspected poisoning or overdose.

Contextual (When, Where, Why)

The EMT-Basic can prevent injury and illness from ingested poisoning by administering activated charcoal. The sooner this happens, the more effect it will have. The EMT-Basic can also prevent loss of life by ensuring the patient who has overdosed has his airway protected.

STUDENT ACTIVITIES

Auditory (Hear)

None identified for this lesson.

Visual (See)

1. The student should see audio-visuals aids or materials of examples of poisoning by ingestion.

2. The student should see audio-visuals aids or materials of examples of poisoning by inhalation.
3. The student should see audio-visuals aids or materials of examples of poisoning by injection.
4. The student should see audio-visuals aids or materials of examples of poisoning by absorption.
5. The student should see activated charcoal.
6. The student should see a demonstration of how to administer activated charcoal.
7. The student should see a demonstration of how to care for a patient with suspected poisoning or overdose.

Kinesthetic (Do)

1. The student should practice caring for a patient with suspected poisoning or overdose.
2. The student should practice the assessment and documentation of patient response to activated charcoal.
3. The student should practice completing a prehospital care report for patients with poisoning/overdose emergencies.

INSTRUCTOR ACTIVITIES

Supervise student practice.
Reinforce student progress in cognitive, affective, and psychomotor domains.
Redirect students having difficulty with content (complete remediation forms).

EVALUATION

Written: Develop evaluation instruments, e.g., quizzes, verbal reviews, handouts, to determine if the students have met the cognitive and affective objectives of this lesson.

Practical: Evaluate the actions of the EMT-Basic students during role play, practice or other skill stations to determine their compliance with the cognitive and affective objectives and their mastery of the psychomotor objectives of this lesson.

REMEDIATION

Identify students or groups of students who are having difficulty with this subject content. Complete remediation sheet from the instructor's course guide.

ENRICHMENT

What is unique in the local area concerning this topic? Complete enrichment sheets from the instructor's course guide and attach with lesson plan. If there are local resources, for example, Poison Control Centers, utilize them.

MODULE 5

Trauma

Lesson 5-1

Bleeding and Shock

OBJECTIVES

OBJECTIVES LEGEND

C = Cognitive P = Psychomotor A = Affective
1 = Knowledge level
2 = Application level
3 = Problem-solving level

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

5-1.1 List the structure and function of the circulatory system.(C-1)
5-1.2 Differentiate between arterial, venous and capillary bleeding.(C-3)
5-1.3 State methods of emergency medical care of external bleeding.(C-1)
5-1.4 Establish the relationship between body substance isolation and bleeding.(C-3)
5-1.5 Establish the relationship between airway management and the trauma patient.(C-3)
5-1.6 Establish the relationship between mechanism of injury and internal bleeding.(C-3)
5-1.7 List the signs of internal bleeding.(C-1)
5-1.8 List the steps in the emergency medical care of the patient with signs and symptoms of internal bleeding.(C-1)
5-1.9 List signs and symptoms of shock (hypoperfusion).(C-1)
5-1.10 State the steps in the emergency medical care of the patient with signs and symptoms of shock (hypoperfusion).(C-1)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

5-1.11 Explain the sense of urgency to transport patients that are bleeding and show signs of shock (hypoperfusion).(A-1)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

5-1.12 Demonstrate direct pressure as a method of emergency medical care of external bleeding. (P-1,2)

5-1.13 Demonstrate the use of diffuse pressure as a method of emergency medical care of external bleeding.(P-1,2)

5-1.14 Demonstrate the use of pressure points and tourniquets as a method of emergency medical care of external bleeding.(P-1,2)

5-1.15 Demonstrate the care of the patient exhibiting signs and symptoms of internal bleeding.(P-1,2)

5-1.16 Demonstrate the care of the patient exhibiting signs and symptoms of shock (hypoperfusion).(P-1,2)

5-1.17 Demonstrate completing a prehospital care report for patient with bleeding and/or shock (hypoperfusion).(P-2)

PREPARATION

Motivation: Trauma is the leading cause of death in the United States for persons between the ages of 1 and 44. Understanding the mechanism of injury and relevant signs and symptoms of bleeding and shock (hypoperfusion) is of paramount importance when dealing with the traumatized patient.

Prerequisites: BLS, Preparatory, Airway and Patient Assessment.

MATERIALS

AV Equipment: Utilize various audio-visual materials relating to bleeding and shock (hypoperfusion). The continuous design and development of new audio-visual materials relating to EMS requires careful review to determine which best meet the needs of the program. Materials should be edited to assure meeting the objectives of the curriculum.

EMS Equipment: Sterile dressings, bandages, splints, pneumatic antishock garment, triangular bandage, stick or rod, air splints, gloves, eye protection, blanket.

PERSONNEL

Primary Instructor: One EMT-Basic instructor knowledgeable in bleeding and shock (hypoperfusion).

Assistant Instructor: The instructor-to-student ratio should be 1:6 for psychomotor skill practice. Individuals used as assistant instructors should be knowledgeable in bleeding and shock.

Recommended Minimum Time to Complete: Two hours

PRESENTATION

Declarative (What)

I. Circulatory (Cardiovascular) System Review
   - A. Anatomy review
     1. Heart
     2. Arteries
     3. Capillaries
     4. Veins
     5. Blood
     6. Physiology
     7. Perfusion
        - a. Definition - circulation of blood through an organ structure.
        - b. Perfusion delivers oxygen and other nutrients to the cells of all organ systems and the removes waste products.
        - c. Hypoperfusion is the inadequate circulation of blood through an organ.

II. External Bleeding
   - A. Body substance isolation must be routinely taken to avoid skin and mucous membrane exposure to body fluids.
     1. Eye protection
     2. Gloves
     3. Gown
     4. Mask
     5. Hand washing following each run.

B. Severity
   1. The sudden loss of one liter (1000cc) of blood in the adult patient, 1/2 liter (500cc) of blood in the child, and 100 - 200cc of the blood volume in an infant is considered serious. (For example, a one year old only has 800cc of blood, therefore 150cc is a major blood loss).
   2. The severity of blood loss must be based on the patient's signs and symptoms and the general impression of the amount of blood loss. If the patient exhibits signs and symptoms of shock (hypoperfusion), the bleeding is to be considered serious.
   3. The natural response to bleeding is blood vessel contractions and clotting; however, a serious injury may prevent effective clotting from occurring.
   4. Uncontrolled bleeding or significant blood loss leads to shock (hypoperfusion) and possibly death.

C. Types of bleeding
   1. Arterial
      a. The blood spurts from the wound.
      b. Bright, red, oxygen rich blood.
      c. Arterial bleeding is the most difficult to control because of the pressure at which arteries bleed.
      d. As the patient's blood pressure drops, the amount of spurting may also drop.
   2. Venous
      a. The blood flows as a steady stream.
      b. Dark, oxygen poor blood.
      c. Bleeding from a vein can be profuse; however, in most cases it is easier to control due to the lower venous pressure.
   3. Capillary
      a. The blood oozes from a capillary and is dark red in color.
      b. The bleeding often clots spontaneously.

D. Emergency medical care of external bleeding
   1. Body substance isolation
   2. Maintain airway/artificial ventilation.
   3. Bleeding control
      a. Apply finger tip pressure directly on the point of bleeding.
      b. Elevation of a bleeding extremity may be used secondary to and in conjunction with direct pressure.

c. Large gaping wounds may require packing with sterile gauze and direct hand pressure if direct finger tip pressure fails to control bleeding.
d. If bleeding does not stop, remove dressing and assess for bleeding point to apply direct pressure. If diffuse bleeding is discovered, apply additional pressure.
e. Pressure points may be used in upper and lower extremities.

4. Methods to control external bleeding if direct pressure fails
   a. Splints
      (1) Reduction of motion of bone ends will reduce the amount and aggravation of tissue damage and bleeding associated with a fracture.
      (2) Splinting may allow prompt control of bleeding associated with a fracture.
   b. Pressure Splints
      (1) The use of air pressure splints can help control severe bleeding associated with lacerations of soft tissue or when bleeding is associated with fractures.
      (2) Pneumatic counterpressure devices (pneumatic antishock garment) can be used as an effective pressure splint to help control severe bleeding due to massive soft tissue injury to the lower extremities (leg compartments only) or traumatic pelvic hemorrhage (all compartments).
   c. Tourniquet
      (1) Use as a last resort to control bleeding of an amputated extremity when all other methods of bleeding control have failed.
      (2) Application of a tourniquet can cause permanent damage to nerves, muscles and blood vessels resulting in the loss of an extremity.
      (3) Procedures for applying a tourniquet:
         (a) Use a bandage 4 inches wide and 6 to 8 layers deep.
         (b) Wrap it around the extremity twice at a point proximal to the bleeding but as distal on the extremity as possible.

(c) Tie one knot in the bandage and place a stick or rod on top of the knot and tie the ends of the bandage over the stick in a square knot.
(d) Twist the stick until the bleeding stops.
(e) Once the bleeding has stopped, secure the stick or rod in position.
(f) Notify other emergency personnel who may care for the patient that a tourniquet has been applied.
(g) Document the use of a tourniquet and the time applied in the prehospital patient report.

(4) A continuously inflated blood pressure cuff may be used as a tourniquet until bleeding stops.

(5) Precautions with the use of a tourniquet:
(a) Use a wide bandage and secure tightly.
(b) Never use wire, rope, a belt, or any other material that may cut into the skin and underlying tissue.
(c) Do not remove or loosen the tourniquet once it is applied unless directed to do so by medical direction.
(d) Leave the tourniquet in open view.
(e) Do not apply a tourniquet directly over any joint, but as close to the injury as possible.

E. Special areas (bleeding from the nose, ears or mouth)
1. Potential causes:
a. Injured skull
b. Facial trauma
c. Digital trauma (nose picking)
d. Sinusitis and other upper respiratory tract infections
e. Hypertension (high blood pressure)
f. Coagulation disorders
2. Bleeding from the ears or nose may occur because of a skull fracture. If the bleeding is the result of trauma, do not attempt to stop the blood flow. Collect the blood with a loose dressing, which may also limit exposure to sources of infection.
3. Emergency medical care for epistaxis (nosebleed):
a. Place the patient in a sitting position leaning forward.
b. Apply direct pressure by pinching the fleshy portion of the nostrils together.

c. Keep the patient calm and quiet.

III. Internal Bleeding
  A. Severity
    1. Internal bleeding can result in severe blood loss with resultant shock (hypoperfusion) and subsequent death.
    2. Injured or damaged internal organs commonly lead to extensive bleeding that is concealed.
    3. Painful, swollen, deformed extremities may also lead to serious internal blood loss.
    4. Suspicion and severity of internal bleeding should be based on the mechanism of injury and clinical signs and symptoms.
  B. Relationship to mechanism of injury
    1. Blunt trauma
      a. Falls
      b. Motorcycle crashes
      c. Pedestrian impacts
      d. Automobile collisions
      e. Blast injuries
      f. Look for evidence of contusions, abrasions, deformity, impact marks, and swelling.
    2. Penetrating trauma
  C. Signs and symptoms of internal bleeding
    1. Pain, tenderness, swelling or discoloration of suspected site of injury.
    2. Bleeding from the mouth, rectum, or vagina, or other orifice.
    3. Vomiting bright red blood or dark coffee ground colored blood.
    4. Dark, tarry stools or stools with bright red blood
    5. Tender, rigid, and/or distended abdomen
    6. Late signs and symptoms of hypovolemic shock (hypoperfusion)
      a. Anxiety, restlessness, combativeness or altered mental status
      b. Weakness, faintness or dizziness
      c. Thirst
      d. Shallow rapid breathing
      e. Rapid weak pulse
      f. Pale, cool, clammy skin
      g. Capillary refill greater than 2 seconds - infant and child patients only
      h. Dropping blood pressure (late sign)
      i. Dilated pupils that are sluggish to respond
      j. Nausea and vomiting

D. Emergency medical care
   1. Body substance isolation
   2. Maintain airway/artificial ventilation.
   3. Administer oxygen if not already done during the initial assessment.
   4. If bleeding is suspected in an extremity, control bleeding by direct pressure and application of a splint.
   5. Immediate transport is critical for patient with signs and symptoms of shock (hypoperfusion).

IV. Shock (hypoperfusion syndrome)
   A. Severity
      1. Shock (hypoperfusion) results in inadequate perfusion of cells with oxygen and nutrients and inadequate removal of metabolic waste products.
      2. Cell and organ malfunction and death can result from shock (hypoperfusion); therefore, prompt recognition and treatment is vital to patient survival.
      3. Peripheral perfusion is drastically reduced due to the reduction in circulating blood volume.
      4. Trauma patients develop shock (hypoperfusion) from the loss of blood from both internal and external sites. This type of shock (hypoperfusion) is referred to as hypovolemic or hemorrhagic shock.
   B. Signs and symptoms of shock (hypoperfusion)
      1. Mental states
         a. Restlessness
         b. Anxiety
         c. Altered mental status
      2. Peripheral perfusion
         a. Delayed capillary refill greater than 2 seconds in normal ambient air temperature - infant and child patients only
         b. Weak, thready or absent peripheral pulses
         c. Pale, cool, clammy skin
      3. Vital signs
         a. Decreased blood pressure (late sign)
         b. Increased pulse rate (early sign) - weak and thready
         c. Increased breathing rate
            (1) Shallow
            (2) Labored
            (3) Irregular

4. Other signs and symptoms
   a. Dilated pupils
   b. Marked thirst
   c. Nausea and vomiting
   d. Pallor with cyanosis to the lips
5. Infant and child patients can maintain their blood pressure until their blood volume is more than half gone, so by the time their blood pressure drops they are close to death. The infant or child in shock has less reserve.

C. Emergency medical care
1. Body substance isolation.
2. Maintain airway/artificial ventilation. Administer oxygen if indicated.
3. Control any external bleeding.
4. If signs of shock (hypoperfusion) are present and the lower abdomen is tender and pelvic injury is suspected, with no evidence of chest injury, apply and inflate the pneumatic antishock garment if approved by medical direction.
5. Elevate the lower extremities approximately 8 to 12 inches. If the patient has serious injuries to the pelvis, lower extremities, head, chest, abdomen, neck, or spine, keep the patient supine.
6. Splint any suspected bone or joint injuries.
7. Prevent loss of body heat by covering the patient with a blanket when appropriate.
8. Immediate transport.

APPLICATION

Procedural (How)

1. Review the methods of controlling external bleeding with emphasis on body substance isolation.
2. Review the methods used to treat internal bleeding.
3. Review the methods used to treat the patient in shock (hypoperfusion).

Contextual (When, Where, Why)

Bleeding and shock (hypoperfusion) are identified during the initial patient assessment after securing the scene and ensuring personal safety. Control of arterial or venous bleeding will be done upon immediate identification, after airway and breathing. Treatment of shock (hypoperfusion) and internal bleeding will be performed immediately following the initial assessment and prior to the transportation of the patient. Bleeding that is uncontrolled or excessive will lead to shock (hypoperfusion). Shock (hypoperfusion) will lead to inadequate tissue perfusion and eventual cell and organ death.

STUDENT ACTIVITIES

Auditory (Hear)

1. The students should hear simulated situations to identify signs and symptoms of external bleeding, internal bleeding, and shock (hypoperfusion).
2. The students should hear normal systolic and diastolic sounds associated with taking a blood pressure.

Visual (See)

1. The students should see audio-visual aids or materials of the various types of external bleeding and various signs of internal bleeding and shock (hypoperfusion).
2. The student should see audio-visual aids or materials of the proper methods to control bleeding, and treat for internal bleeding and shock (hypoperfusion).
3. The student should see a patient to identify major bleeding and signs of internal bleeding and shock (hypoperfusion).
4. The students should see, in simulated situations, the application of direct pressure, elevation, splints, counterpressure devices, cryotherapy, and tourniquets in the treatment of external bleeding.
5. The students should see, in simulated situations, the treatment of the internal bleeding and shock (hypoperfusion).
6. The students should see audio-visual aids or materials with known amounts of blood on gauze pads, vaginal pads, clothing, floors, and humans.

Kinesthetic (Do)

1. The students should practice application of direct pressure, elevation, splints, and tourniquets.
2. The students should practice the treatment of internal bleeding and shock (hypoperfusion).
3. The students should practice completing a prehospital care report for patients with bleeding and/or shock (hypoperfusion).

INSTRUCTOR ACTIVITIES

Supervise student practice.
Reinforce student progress in cognitive, affective, and psychomotor domains.
Redirect students having difficulty with content (complete remediation forms).

EVALUATION

Written: Develop evaluation instruments, e.g., quizzes, verbal reviews, handouts, to determine if the students have met the cognitive and affective objectives of this lesson.

Practical: Evaluate the actions of the EMT-Basic students during role play, practice or other skill stations to determine their compliance with the cognitive and affective objectives and their mastery of the psychomotor objectives of this lesson.

REMEDIATION

Identify students or groups of students who are having difficulty with this subject content. Complete remediation sheet from the instructor's course guide.

ENRICHMENT

What is unique in the local area concerning this topic? Complete enrichment sheets from the instructor's course guide and attach with lesson plan.

MODULE 5

Trauma

Lesson 5-3

Musculoskeletal Care

OBJECTIVES

OBJECTIVES LEGEND

C = Cognitive P = Psychomotor A = Affective
1 = Knowledge level
2 = Application level
3 = Problem-solving level

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

5-3.1 Describe the function of the muscular system.(C-1)
5-3.2 Describe the function of the skeletal system.(C-1)
5-3.3 List the major bones or bone groupings of the spinal column; the thorax; the upper extremities; the lower extremities.(C-1)
5-3.4 Differentiate between an open and a closed painful, swollen, deformed extremity.(C-1)
5-3.5 State the reasons for splinting.(C-1)
5-3.6 List the general rules of splinting.(C-1)
5-3.7 List the complications of splinting.(C-1)
5-3.8 List the emergency medical care for a patient with a painful, swollen, deformed extremity. (C-1)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

5-3.9 Explain the rationale for splinting at the scene versus load and go.(A-3)
5-3.10 Explain the rationale for immobilization of the painful, swollen, deformed extremity.(A-3)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

5-3.11 Demonstrate the emergency medical care of a patient with a painful, swollen, deformed extremity.(P-1,2)
5-3.12 Demonstrate completing a prehospital care report for patients with musculoskeletal injuries.(P-2)

PREPARATION

Motivation: Musculoskeletal injuries are one of the most common types of injuries encountered by the EMT-Basic. These injuries are largely non-life threatening in nature; however, some may be life threatening. Prompt identification and treatment of musculoskeletal injuries is crucial in reducing pain, preventing further injury and minimizing permanent damage.

Prerequisites: BLS, Preparatory, Airway and Patient Assessment.

MATERIALS

AV Equipment: Utilize various audio-visual materials relating to musculoskeletal care. The continuous design and development of new audio-visual materials relating to EMS requires careful review to determine which best meet the needs of the program. Materials should be edited to assure meeting the objectives of the curriculum.

EMS Equipment: Splints: Padded arm and leg, air, traction, cardboard, ladder, blanket, pillow, pneumatic antishock garment, improvised splinting material, e.g., magazines, etc.

PERSONNEL

Primary Instructor: One EMT-Basic instructor knowledgeable in musculoskeletal injuries and splinting techniques.

Assistant Instructor: The instructor-to-student ratio should be 1:6 for psychomotor skill practice. Individuals used as assistant instructors should be knowledgeable in musculoskeletal care and splinting techniques.

Recommended Minimum Time to Complete: Four hours

PRESENTATION

Declarative (What)

I. Musculoskeletal Review
   A. Anatomy review
   B. The skeletal system

II. Injuries to bones
   A. Mechanism of injury
      1. Direct force
      2. Indirect force
      3. Twisting force
   B. Bone or joint injuries
      1. Types
         a. Open - break in the continuity of the skin
         b. Closed - no break in the continuity of the skin
      2. Signs and symptoms
         a. Deformity or angulation
         b. Pain and tenderness
         c. Grating
         d. Swelling
         e. Bruising (discoloration)
         i. Exposed bone ends
         j. Joint locked into position
      3. Emergency medical care of bone or joint injuries
         a. Body substance isolation
         b. Administer oxygen if not already done and indicated.
         c. After life threats have been controlled, splint injuries in preparation for transport.
         d. Application of cold pack to area of painful, swollen, deformed extremity to reduce swelling.
         e. Elevate the extremity.

III. Splinting
   A. Reasons
      1. Prevent motion of bone fragments, bone ends or angulated joints.
      2. Minimize the following complications:
         a. Damage to muscles, nerves, or blood vessels caused by broken bones.

b. Conversion of a closed painful, swollen, deformed extremity to an open painful, swollen, deformed extremity.
c. Restriction of blood flow as a result of bone ends compressing blood vessels.
d. Excessive bleeding due to tissue damage caused by bone ends.
e. Increased pain associated with movement of bone ends.
f. Paralysis of extremities due to a damaged spine.

B. General rules of splinting
1. Assess pulse, motor, and sensation distal to the injury prior to and following splint application and record findings.
2. Immobilize the joint above and below the injury.
3. Remove or cut away clothing.
4. Cover open wounds with a sterile dressing.
5. If there is a severe deformity or the distal extremity is cyanotic or lacks pulses, align with gentle traction before splinting.
6. Do not intentionally replace the protruding bones.
7. Pad each splint to prevent pressure and discomfort to the patient.
8. Splint the patient before moving when feasible and no life threats.
9. When in doubt, splint the injury when feasible and no life threats.
10. If patient has signs of shock (hypoperfusion), align in normal anatomical position and transport (Total body immobilization. Example: Backboard takes care of all immobilization on emergency basis).

C. Equipment
1. Rigid splints
2. Traction splints
3. Pneumatic splints (air, vacuum)
4. Improvised splints, pillow
5. Pneumatic Anti Shock Garment (as a splint)

D. Hazards of improper splinting
1. Compression of nerves, tissues and blood vessels from the splint
2. Delay in transport of a patient with life threatening injury
3. Splint applied too tight on the extremity reducing distal circulation

4. Aggravation of the bone or joint injury
5. Cause or aggravate tissue, nerve, vessel or muscle damage from excessive bone or joint movement

E. Special considerations of splinting
   1. Long bone splinting procedure
      a. Body substance isolation
      b. Apply manual stabilization.
      c. Assess pulse, motor and sensory function.
      d. If there is a severe deformity or the distal extremity is cyanotic or lacks pulses, align with gentle traction before splinting.
      e. Measure splint.
      f. Apply splint immobilizing the bone and joint above and below the injury.
      g. Secure entire injured extremity.
      h. Immobilize hand/foot in position of function.
      i. Reassess pulse, motor, and sensation after application of splint and record.
   2. Splinting a joint injury
      a. Body substance isolation
      b. Apply manual stabilization.
      c. Assess pulse, motor and sensory function.
      d. Align with gentle traction if distal extremity is cyanotic or lacks pulses and no resistance is met.
      e. Immobilize the site of injury.
      f. Immobilize bone above and below the site of injury.
      g. Reassess pulse, motor and sensation after application of splint and record.
   3. Traction splinting
      a. Indications for use is a painful, swollen, deformed mid-thigh with no joint or lower leg injury.
      b. Contraindications of the use of a traction splint
         (1) Injury is close to the knee
         (2) Injury to the knee exists
         (3) Injury to the hip
         (4) Injured pelvis
         (5) Partial amputation or avulsion with bone separation, distal limb is connected only by marginal tissue. Traction would risk separation.
         (6) Lower leg or ankle injury.

c. Traction splinting procedure
   (1) Assess pulse, motor, and sensation distal to the injury and record.
   (2) Body substance isolation
   (3) Perform manual stabilization of the injured leg.
   (4) Apply manual traction - required when using a bi-polar traction splint.
   (5) Prepare/adjust splint to proper length.
   (6) Position splint under injured leg.
   (7) Apply proximal securing device (ischial strap).
   (8) Apply distal securing device (ankle hitch).
   (9) Apply mechanical traction.
   (10) Position/secure support straps.
   (11) Re-evaluate proximal/distal securing devices.
   (12) Reassess pulses, motor, sensation distal to the injury after application of the splint and record.
   (13) Secure torso to the longboard to immobilize hip.
   (14) Secure splint to the long board to prevent movement of splint.

APPLICATION

Procedural (How)

1. Show diagrams of the muscular system.
2. Show diagrams of the skeletal system.
3. Show audio-visual aids or materials of signs of open and closed type bone and joint injuries.
4. Demonstrate assessment of an injured extremity.
5. Demonstrate splinting procedures relevant to the general rules of splinting using: Rigid splints, traction splints, pneumatic splints, improvised splints, and pneumatic antishock garments.
6. Demonstrate procedure for splinting an injury with distal cyanosis or lacking a distal pulse.

Contextual (When, Where, Why)

Injuries to bones and joints require splinting prior to the movement of the patient unless life-threatening injuries are present. If life-threatening injuries are present, splinting should be done en route to the receiving facility when possible.

Failure to splint or improperly splinting a bone or joint injury can result in damage to soft tissue, organs, nerves, muscles; increased bleeding associated with the injury; permanent damage or disability; conversion of a closed injury to an open injury; and an increase in pain.

STUDENT ACTIVITIES

Auditory (Hear)

1. The student should hear simulations on various situations involving musculoskeletal injuries and the proper assessment and treatment.

Visual (See)

1. The student should see diagrams of the muscular system.
2. The student should see diagrams of the skeletal system.
3. The student should see audio-visual aids or materials of signs of open and closed bone and joint injuries.
4. The student should see a demonstration of an assessment of an injured extremity.
5. The student should see a demonstration of splinting procedures relevant to the general rules of splinting using: Rigid splints, traction splints, pneumatic splints, improvised splints, and pneumatic antishock garments.
6. The student should see a demonstration of the procedure for splinting an injury with distal cyanosis or lacking a distal pulse.

Kinesthetic (Do)

1. The student should practice assessment of an injured extremity.
2. The student should practice splinting procedures relevant to the general rules of splinting using: Rigid splints, traction splints, pneumatic splints, improvised splints, and pneumatic antishock garments.
3. The student should practice procedure for splinting an injury with distal cyanosis or lacking a distal pulse.
4. The student should practice completing a prehospital care report for patients with musculoskeletal injuries.

INSTRUCTOR ACTIVITIES

Supervise student practice.
Reinforce student progress in cognitive, affective, and psychomotor domains.
Redirect students having difficulty with content (complete remediation forms).

EVALUATION

Written: Develop evaluation instruments, e.g., quizzes, verbal reviews, handouts, to determine if the students have met the cognitive and affective objectives of this lesson.

Practical: Evaluate the actions of the EMT-Basic students during role play, practice or other skill stations to determine their compliance with the cognitive and affective objectives and their mastery of the psychomotor objectives of this lesson.

REMEDIATION

Identify students or groups of students who are having difficulty with this subject content. Complete remediation sheet from the instructor's course guide.

ENRICHMENT

What is unique in the local area concerning this topic? Complete enrichment sheets from the instructor's course guide and attach with lesson plan.

MODULE 5

Trauma

Lesson 5-4

Injuries to the Head and Spine

OBJECTIVES

OBJECTIVES LEGEND

C = Cognitive P = Psychomotor A = Affective
1 = Knowledge level
2 = Application level
3 = Problem-solving level

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

5-4.1 State the components of the nervous system.(C-1)
5-4.2 List the functions of the central nervous system.(C-1)
5-4.3 Define the structure of the skeletal system as it relates to the nervous system.(C-1)
5-4.4 Relate mechanism of injury to potential injuries of the head and spine.(C-3)
5-4.5 Describe the implications of not properly caring for potential spine injuries.(C-1)
5-4.6 State the signs and symptoms of a potential spine injury.(C-1)
5-4.7 Describe the method of determining if a responsive patient may have a spine injury.(C-1)
5-4.8 Relate the airway emergency medical care techniques to the patient with a suspected spine injury.(C-3)
5-4.9 Describe how to stabilize the cervical spine.(C-1)
5-4.10 Discuss indications for sizing and using a cervical spine immobilization device.(C-1)
5-4.11 Establish the relationship between airway management and the patient with head and spine injuries.(C-1)
5-4.12 Describe a method for sizing a cervical spine immobilization device.(C-1)
5-4.13 Describe how to log roll a patient with a suspected spine injury.(C-1)
5-4.14 Describe how to secure a patient to a long spine board.(C-1)
5-4.15 List instances when a short spine board should be used.(C-1)
5-4.16 Describe how to immobilize a patient using a short spine board.(C-1)
5-4.17 Describe the indications for the use of rapid extrication.(C-1)

5-4.18 List steps in performing rapid extrication.(C-1)
5-4.19 State the circumstances when a helmet should be left on the patient.(C-1)
5-4.20 Discuss the circumstances when a helmet should be removed.(C-1)
5-4.21 Identify different types of helmets.(C-1)
5-4.22 Describe the unique characteristics of sports helmets.(C-1)
5-4.23 Explain the preferred methods to remove a helmet.(C-1)
5-4.24 Discuss alternative methods for removal of a helmet.(C-1)
5-4.25 Describe how the patient's head is stabilized to remove the helmet.(C-1)
5-4.26 Differentiate how the head is stabilized with a helmet compared to without a helmet.(C-3)

AFFECTIVE OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

5-4.27 Explain the rationale for immobilization of the entire spine when a cervical spine injury is suspected.(A-3)
5-4.28 Explain the rationale for utilizing immobilization methods apart from the straps on the cots.(A-3)
5-4.29 Explain the rationale for utilizing a short spine immobilization device when moving a patient from the sitting to the supine position.(A-3)
5-4.30 Explain the rationale for utilizing rapid extrication approaches only when they indeed will make the difference between life and death.(A-3)
5-4.31 Defend the reasons for leaving a helmet in place for transport of a patient.(A-3)
5-4.32 Defend the reasons for removal of a helmet prior to transport of a patient.(A-3)

PSYCHOMOTOR OBJECTIVES

At the completion of this lesson, the EMT-Basic student will be able to:

5-4.33 Demonstrate opening the airway in a patient with suspected spinal cord injury.(P-1,2)
5-4.34 Demonstrate evaluating a responsive patient with a suspected spinal cord injury.(P-1,2)
5-4.35 Demonstrate stabilization of the cervical spine.(P-1,2)
5-4.36 Demonstrate the four person log roll for a patient with a suspected spinal cord injury.(P-1,2)
5-4.37 Demonstrate how to log roll a patient with a suspected spinal cord injury using two people.(P-1,2)
5-4.38 Demonstrate securing a patient to a long spine board.(P-1,2)

5-4.39 Demonstrate using the short board immobilization technique.(P-1,2)
5-4.40 Demonstrate procedure for rapid extrication.(P-1,2)
5-4.41 Demonstrate preferred methods for stabilization of a helmet. (P-1,2)
5-4.42 Demonstrate helmet removal techniques.(P-1,2)
5-4.43 Demonstrate alternative methods for stabilization of a helmet.(P-1,2)
5-4.44 Demonstrate completing a prehospital care report for patients with head and spinal injuries.(P-2)

PREPARATION

Motivation: Injuries to the head and spine are extremely serious and may result in severe permanent disability or death if improperly treated or missed in the assessment.

Prerequisites: BLS, Preparatory, Airway and Patient Assessment.

MATERIALS

AV Equipment: Utilize various audio-visual materials relating to injuries of the head and spine. The continuous design and development of new audio-visual materials relating to EMS requires careful review to determine which best meet the needs of the program. Materials should be edited to assure meeting the objectives of the curriculum.

EMS Equipment: Long spine board, short spine immobilization device, cervical immobilization devices, helmet, head immobilization device, blanket roll, two inch tape.

PERSONNEL

Primary Instructor: One EMT-Basic instructor knowledgeable in head and spinal injuries.

Assistant Instructor: The instructor-to-student ratio should be 1:6 for psychomotor skill practice. Individuals used as assistant instructors should be knowledgeable in head and spinal emergencies and treatment.

Recommended Minimum Time to Complete: Four hours

PRESENTATION

Declarative (What)

I. The Nervous System Review
   - A. Components
   - B. Actions

II. The Skeletal System
   - A. Functions
   - B. Components
     1. Skull
     2. Spinal column
        - a. 33 bones
        - b. Surrounds and protects the spinal cord.

III. Injuries to the Spine
   - A. Mechanism of injury
     1. Compression
        - a. Falls
        - b. Diving accidents
        - c. Motor vehicle accidents
     2. Excessive flexion, extension, rotation
     3. Lateral bending
     4. Distraction
        - a. Pulling apart of the spine
        - b. Hangings
     5. Maintain a high index of suspicion
        - a. Motor vehicle crashes
        - b. Pedestrian - vehicle collisions
        - c. Falls
        - d. Blunt trauma
        - e. Penetrating trauma to head, neck, or torso
        - f. Motorcycle crashes
        - g. Hangings
        - h. Diving accidents
        - i. Unconscious trauma victims
   - B. Signs and symptoms
     1. Ability to walk, move extremities or feel sensation; or lack of pain to spinal column does not rule out the possibility of spinal column or cord damage.
     2. Tenderness in the area of injury

3. Pain associated with moving
   a. Do not ask the patient to move to try to elicit a pain response.
   b. Do not move the patient to test for a pain response.
4. Tell the patient not to move while asking questions.
5. Pain independent of movement or palpation
   a. Along spinal column
   b. Lower legs
   c. May be intermittent
6. Obvious deformity of the spine upon palpation
7. Soft tissue injuries associated with trauma
   a. Head and neck to cervical spine
   b. Shoulders, back or abdomen - thoracic, lumbar
   c. Lower extremities - lumbar, sacral
8. Numbness, weakness or tingling in the extremities
9. Loss of sensation or paralysis below the suspected level of injury
10. Loss of sensation or paralysis in the upper or lower extremities
11. Incontinence

C. Assessing the potential spine injured patient
   1. Responsive patient
      a. Mechanism of injury
      b. Questions to ask
         (1) Does your neck or back hurt?
         (2) What happened?
         (3) Where does it hurt?
         (4) Can you move your hands and feet?
         (5) Can you feel me touching your fingers?
         (6) Can you feel me touching your toes?
      c. Inspect for contusions, deformities, lacerations, punctures, penetrations, swelling.
      d. Palpate for areas of tenderness or deformity.
      e. Assess equality of strength of extremities
         (1) Hand grip
         (2) Gently push feet against hands
   2. Unresponsive patient
      a. Mechanism of injury
      b. Initial assessment
      c. Inspect for:
         (1) Contusions
         (2) Deformities

(3) Lacerations
(4) Punctures/penetrations
(5) Swelling

d. Palpate for areas of tenderness or deformity.
e. Obtain information from others at the scene to determine information relevant to mechanism of injury or patient mental status prior to the EMT-Basic's arrival.

D. Complications
1. Inadequate breathing effort
2. Paralysis

E. Emergency medical care
1. Body substance isolation
2. Establish and maintain in-line immobilization.
a. Place the head in a neutral in-line position unless the patient complains of pain or the head is not easily moved into position.
b. Place head in alignment with spine.
c. Maintain constant manual in-line immobilization until the patient is properly secured to a backboard with the head immobilized.
3. Perform initial assessment.
a. Whenever possible, airway control must be done with in-line immobilization.
b. Whenever possible, artificial ventilation must be done with in-line immobilization.
4. Assess pulse, motor and sensation in all extremities.
5. Assess the cervical region and neck.
6. Apply a rigid, cervical immobilization device.
a. Properly size the cervical immobilization device. If it doesn't fit use a rolled towel and tape to the board and have rescuer hold the head manually.
b. An improperly fit immobilization device will do more harm than good.
7. If found in a lying position, immobilize the patient to a long spine board.
a. Position the device.
b. Move the patient onto the device by log rolling.
(1) One EMT-Basic must maintain in-line immobilization of the head and spine.
(2) EMT-Basic at the head directs the movement of the patient.

(3) One to three other EMT-Basics control the movement of the rest of the body.
(4) Quickly assess posterior body if not already done in focused history and physical exam.
(5) Position the long spine board under the patient.
(6) Place patient onto the board at the command of the EMT-Basic holding in-line immobilization using a slide, proper lift, log roll or scoop stretcher so as to limit movement to the minimum amount possible. Which method to use must be decided based upon the situation, scene and available resources.
(7) Pad voids between the patient and the board.
(a) Adult
i) Under the head
ii) Voids under torso. Be careful of extra movement.
(b) Infant and child - pad under the shoulders to the toes to establish a neutral position.
(8) Immobilize torso to the board.
(9) Immobilize the patient's head to the board.
(10) Secure the legs to the board.
(11) Reassess pulses, motor and sensation and record.

8. If the patient is found in a sitting position in a chair, immobilize with a short spine immobilization device. Exception: If the patient must be removed urgently because of his injuries, the need to gain access to others, or dangers at the scene, he must then be lowered directly onto a longboard and removed with manual immobilization provided.
a. Position device behind the patient.
b. Secure the device to the patient's torso.
c. Evaluate torso fixation and adjust as necessary without excessive movement of the patient.
d. Evaluate and pad behind the patient's head as necessary to maintain neutral in-line immobilization.
e. Secure the patient's head to the device.
f. Insert a longboard under the patient's buttocks and rotate and lower him to it. If not possible, lower him to the long spine board.
g. Reassess pulses, motor and sensory in all extremities and record.

9. If the patient is found in a standing position, immobilize the patient to a long spine board.
    a. Position the device behind patient.
    b. Move the patient onto the device by:
        (1) One rescuer on each side of the patient, one additional rescuer at the foot facing the patient.
        (2) The rescuers on both sides of the patient reach with the hand closest to the patient under the arm to grasp the board, and use the hand farthest from the patient to secure the head.
        (3) Once the position is assured, they place the leg closest to the board behind the board and begin to tip the top backward. The rescuer at the foot of the board secures the board and the patient to prevent them from sliding, and the board is brought into a level horizontal position.
10. If the patient is critically injured, perform a rapid extrication.
11. Transport the patient immediately.
    a. Bring body into alignment.
    b. Transfer to long board without short spine board.

IV. Injuries to the Brain and Skull
  A. Head injuries
    1. Injuries to the scalp
        a. Very vascular, may bleed more than expected.
        b. Control bleeding with direct pressure.
    2. Injury to the brain - injury of brain tissue or bleeding into the skull will cause an increase of pressure in the skull.
  B. Related non-traumatic conditions
    1. Non-traumatic injuries to the brain may occur due to clots or hemorrhaging.
    2. Non-traumatic brain injuries can be a cause of altered mental status.
    3. Signs and symptoms parallel that of traumatic injuries with the exception of evidence of trauma and a lack of mechanism of injury.
  C. Skull injury - signs and symptoms
    1. Mechanism of trauma
    2. Contusions, lacerations, hematomas to the scalp
    3. Deformity to the skull
    4. Blood or fluid (cerebrospinal fluid) leakage from the ears or nose
    5. Bruising (discoloration) around the eyes

6. Bruising (discoloration) behind the ears (mastoid process)

D. Head injury
   1. Traumatic
   2. Signs and symptoms
      a. Altered or decreasing mental status is the best indicator of a brain injury.
         (1) Confusion, disorientation, or repetitive questioning
         (2) Conscious - deteriorating mental status
         (3) Unresponsive
      b. Irregular breathing pattern
      c. Consideration of mechanism of injury
         (1) Deformity of windowshield
         (2) Deformity of helmet
      d. Contusions, lacerations, hematomas to the scalp
      e. Deformity to the skull
      f. Blood or fluid (cerebrospinal fluid) leakage from the ears and nose
      g. Bruising (discoloration) around the eyes
      h. Bruising (discoloration) behind the ears (mastoid process)
      i. Neurologic disability
      j. Nausea and/or vomiting
      k. Unequal pupil size with altered mental status
      l. Seizure activity may be seen.

E. Open head injury
   1. Signs and symptoms
      a. Consideration of mechanism of injury
         (1) Deformity of windowshield
         (2) Deformity of helmet
      b. Contusions, lacerations, hematomas to the scalp
      c. Deformity to the skull
      d. Penetrating injury - do not remove impaled objects in the skull
      e. Soft area or depression upon palpation
      f. Exposed brain tissue if open
      g. Bleeding from the open bone injury
      h. Blood or fluid (cerebrospinal fluid) leakage from the ears and nose
      i. Bruising (discoloration) around the eyes
      j. Bruising (discoloration) behind the ears (mastoid process)
      k. Nausea and/or vomiting

l. Possible signs and symptoms of a closed head injury may exist if brain injury has occurred.

F. Emergency medical care
1. Body substance isolation
2. Maintain airway/artificial ventilation/oxygenation.
3. Initial assessment with spinal immobilization should be done on scene with a complete detailed physical exam en route.
4. With any head injury, the EMT-Basic must suspect spinal injury. Immobilize the spine.
5. Closely monitor the airway, breathing, pulse, and mental status for deterioration.
6. Control bleeding.
   a. Do not apply pressure to an open or depressed skull injury.
   b. Dress and bandage open wound as indicated in the treatment of soft tissue injuries.
7. If a medical injury or non-traumatic injury exist, place patient on the left side.
8. Be prepared for changes in patient condition.
9. Immediately transport the patient.

V. Immobilization
A. Cervical spine immobilization devices
1. Indications
   a. Any suspected injury to the spine based on mechanism of injury, history or signs and symptoms.
   b. Use in conjunction with short and long backboards.
2. Sizing
   a. Various types of rigid cervical immobilization devices exist, therefore, sizing is based on the specific design of the device.
   b. An improperly sized immobilization device has a potential for further injury.
   c. Do not obstruct the airway with the placement of a cervical immobilization device.
   d. If it doesn't fit use a rolled towel and tape to the board and manually support the head. An improperly fit device will do more harm than good.
3. Precautions
   a. Cervical immobilization devices alone do not provide adequate in-line immobilization.

b. Manual immobilization must always be used with a cervical immobilization device until the head is secured to a board.

B. Short backboards
   1. Several different types of short board immobilization devices exist.
      a. Vest type devices
      b. Rigid short board
   2. Provides stabilization and immobilization to the head, neck and torso.
   3. Used to immobilize non-critical sitting patients with suspected spinal injuries.
   4. General application
      a. Start manual in-line immobilization.
      b. Assess pulses, motor and sensory function in all extremities.
      c. Assess the cervical area.
      d. Apply a cervical immobilization device.
      e. Position short board immobilization device behind the patient.
      f. Secure the device to the patient's torso.
      g. Evaluate torso and groin fixation and adjust as necessary without excessive movement of the patient.
      h. Evaluate and pad behind the patient's head as necessary to maintain neutral in-line immobilization.
      i. Secure the patient's head to the device.
      j. Release manual immobilization of head.
      k. Rotate or lift the patient to the long spine board.
      l. Immobilize patient to long spine board.
      m. Reassess pulses, motor and sensory function in all extremities.

C. Long backboards (Full body spinal immobilization devices)
   1. Several different types of long board immobilization devices exist.
   2. Provide stabilization and immobilization to the head, neck and torso, pelvis and extremities.
   3. Used to immobilize patients found in a lying, standing, or sitting position.
   4. Sometimes used in conjunction with short backboards.
   5. General application
      a. Start manual in-line immobilization.

b. Assess pulses, motor and sensory function in all extremities.
c. Assess the cervical area.
d. Apply a cervical immobilization device.
e. Position the device.
f. Move the patient onto the device by log roll, suitable lift or slide, or scoop stretcher. A log roll is:
   (1) One EMT-Basic must maintain in-line immobilization.
   (2) EMT-Basic at the head directs the movement of the patient.
   (3) One to three other EMT-Basics control the movement of the rest of the body.
   (4) Quickly assess posterior body if not already done in initial assessment.
   (5) Position the long spine board under the patient.
   (6) Roll patient onto the board at the command of the EMT-Basic holding in-line immobilization.
g. Pad voids between the patient and the board.
   (1) Adult
      (a) Under the head as needed
      (b) Under the torso as needed
   (2) Infant and child - pad under the shoulders to the toes to establish a neutral position.
h. Immobilize torso to the board by applying straps across the chest and pelvis and adjust as needed.
i. Immobilize the patient's head to the board.
j. Fasten legs, proximal to and distal to the knees.
k. Reassess pulses, motor and sensation and record.

VI. Special Considerations
   A. Rapid extrication
      1. Indications
         a. Unsafe scene
         b. Unstable patient condition warrants immediate movement and transport.
         c. Patient blocks the EMT-Basic's access to another, more seriously injured, patient.
         d. Rapid extrication is based on time and the patient, and not the EMT-Basic's preference.
      2. Procedure - refer to section on Lifting and Moving the Patient.

B. Helmet removal
   1. Special assessment needs for patients wearing helmets.
      a. Airway and breathing.
      b. Fit of the helmet and patient's movement within the helmet.
      c. Ability to gain access to airway and breathing.
   2. Indications for leaving the helmet in place
      a. Good fit with little or no movement of the patient's head within the helmet.
      b. No impending airway or breathing problems.
      c. Removal would cause further injury to the patient.
      d. Proper spinal immobilization could be performed with helmet in place.
      e. No interference with the EMT-Basic's ability to assess and reassess airway and breathing.
   3. Indications for removing the helmet
      a. Inability to assess and/or reassess airway and breathing.
      b. Restriction of adequate management of the airway or breathing.
      c. Improperly fitted helmet allowing for excessive patient head movement within the helmet.
      d. Proper spinal immobilization cannot be performed due to helmet.
      e. Cardiac arrest.
   4. Types of helmets:
      a. Sports
         (1) Typically open anteriorly
         (2) Easier access to airway
      b. Motorcycle
         (1) Full face
         (2) Shield
      c. Other
   5. General rules for removal of a helmet.
      a. The technique for removal of a helmet depends on the actual type of helmet worn by the patient.
      b. Take eyeglasses off before removal of the helmet.
      c. One EMT-Basic stabilizes the helmet by placing his hands on each side of the helmet with the fingers on the mandible to prevent movement.
      d. Second EMT-Basic loosens the strap.

e. The second EMT-Basic places one hand on the mandible at the angle of the jaw and the other hand posteriorly at the occipital region.
f. The EMT-Basic holding the helmet pulls the sides of the helmet apart and gently slips the helmet halfway off the patient's head then stops.
g. The EMT-Basic maintaining stabilization of the neck repositions, slides the posterior hand superiorly to secure the head from falling back after complete helmet removal.
h. The helmet is removed completely.
i. The EMT-Basic then can proceed with spinal immobilization as indicated in the spinal immobilization section.

C. Infants and children - immobilize the infant or child on a rigid board appropriate for size (short, long or padded splint), according to the procedure outline in the spinal immobilization section. Special considerations:
1. Pad from the shoulders to the heels of the infant or child, if necessary to maintain neutral immobilization.
2. Properly size the cervical immobilization device. If it doesn't fit, use a rolled towel and tape to the board and manually support head. An improperly fit immobilization device will do more harm than good.

APPLICATION

Procedural (How)

1. Show diagrams or illustrations of the nervous system anatomy.
2. Show diagrams or illustrations of the structure of the skeletal system as it relates to the nervous system.
3. Show audio-visual aids or materials of related mechanism of injury to potential injuries of the head and spine.
4. Show audio-visual aids or materials of potential signs and symptoms of a potential spine injury.
5. Demonstrate the method of determining if a responsive patient may have a spine injury.

6. Demonstrate the airway emergency medical care techniques for the patient with a suspected spinal cord injury.
7. Demonstrate methods for sizing various cervical spine immobilization devices.
8. Demonstrate rapid extrication techniques.
9. Demonstrate how to stabilize the cervical spine.
10. Demonstrate how to immobilize a patient using a short spine board.
11. Demonstrate how to log roll a patient with a suspected spine injury.
12. Demonstrate how to secure a patient to a long spine board.
13. Demonstrate the preferred methods to remove sports, motorcycle and various other helmets.
14. Demonstrate alternative methods for removal of a helmet.
15. Demonstrate how the head is stabilized with a helmet compared to without a helmet.
16. Demonstrate how the patient's head is stabilized in order to remove a helmet.
17. Demonstrate sudden airway emergency medical care with helmet on.

Contextual (When, Where, Why)

For every patient who is involved in any type of traumatic incident in which the mechanism of injury and/or signs and symptoms indicate a possible spinal injury, complete spinal immobilization must be conducted. Critically injured or ill patients may be rapidly moved only with spinal immobilization techniques utilized. A short backboard or spinal immobilization device will be used on non-critically injured patients at the scene prior to movement of the patient. However, when patients present with life threats, or the scene is unsafe for the EMT-Basic, the patient is moved by a rapid extrication technique. Failure to immobilize the spine or treat the head injured patient will lead to increased patient morbidity and mortality.

STUDENT ACTIVITIES

Auditory (Hear)

1. Simulations in which immobilization techniques are needed and performed.
2. Simulations in which patients present with head injuries.

Visual (See)

1. The student should see audio-visual aids or materials of the nervous system anatomy.
2. The student should see audio-visual aids or materials of the structure of the skeletal system as it relates to the nervous system.
3. The student should see audio-visual aids or materials of mechanism of injury related to potential injuries of the head and spine.

4. The student should see audio-visual aids or materials of signs and symptoms of a potential spine injury.
5. The student should see a demonstration of the method of determining if a responsive patient may have a spine injury.
6. The student should see a demonstration of the airway emergency medical care techniques for the patient with a suspected spine injury.
7. The student should see a demonstration of the methods for sizing various cervical spine immobilization devices.
8. The student should see a demonstration of rapid extrication techniques.
9. The student should see a demonstration of how to stabilize the cervical spine.
10. The student should see a demonstration of how to immobilize a patient using a short spine board.
11. The student should see a demonstration of how to log roll a patient with a suspected spinal injury.
12. The student should see a demonstration of how to secure a patient to a long spine board.
13. The student should see a demonstration of the preferred methods to remove sports, motorcycle and various other helmets.
14. The student should see a demonstration of alternative methods for removal of a helmet.
15. The student should see a demonstration of how the head is stabilized with a helmet compared to without a helmet.
16. The student should see a demonstration of how the patient's head is stabilized in order to remove a helmet.
17. The student should see various types of long backboards.
18. The student should see various types of vest type immobilization devices.
19. The student should see various types of short backboards.
20. The student should see various types of helmets.
21. The student should see a demonstration of immobilization of an infant or child patient on a long backboard.

Kinesthetic (Do)

1. The student should practice opening the airway in a patient with suspected spinal cord injury.
2. The student should practice evaluating a responsive patient with a suspected spinal cord injury.
3. The student should practice stabilization of the cervical spine.
4. The student should practice using the short board immobilization technique.
5. The student should practice the four person log roll for a patient with a suspected spinal cord injury.

6. The student should practice how to log roll a patient with a suspected spinal cord injury using two people.
7. The student should practice securing a patient to a long spine board.
8. The student should practice helmet removal techniques.
9. The student should practice the procedure for rapid extrication.
10. The student should practice the preferred methods for stabilization of the helmet.
11. The student should practice alternative methods for stabilization of the helmet.
12. The student should practice preferred methods for stabilization of the head.
13. The student should practice alternative methods for stabilization of the head.
14. The student should practice completing a prehospital care report for patients with head and spinal injuries.
15. The student should practice the use of cervical immobilization devices, rolls and short boards for immobilizing the infant or child patient.

INSTRUCTOR ACTIVITIES

Supervise student practice.
Reinforce student progress in cognitive, affective, and psychomotor domains.
Redirect students having difficulty with content (complete remediation forms).

EVALUATION

Written: Develop evaluation instruments, e.g., quizzes, verbal reviews, handouts, to determine if the students have met the cognitive and affective objectives of this lesson.

Practical: Evaluate the actions of the EMT-Basic students during role play, practice or other skill stations to determine their compliance with the cognitive and affective objectives and their mastery of the psychomotor objectives of this lesson.

REMEDIATION

Identify students or groups of students who are having difficulty with this subject content. Complete remediation sheet from the instructor's course guide.

ENRICHMENT

What is unique in the local area concerning this topic? Complete enrichment sheets from the instructor's course guide and attach with lesson plan.